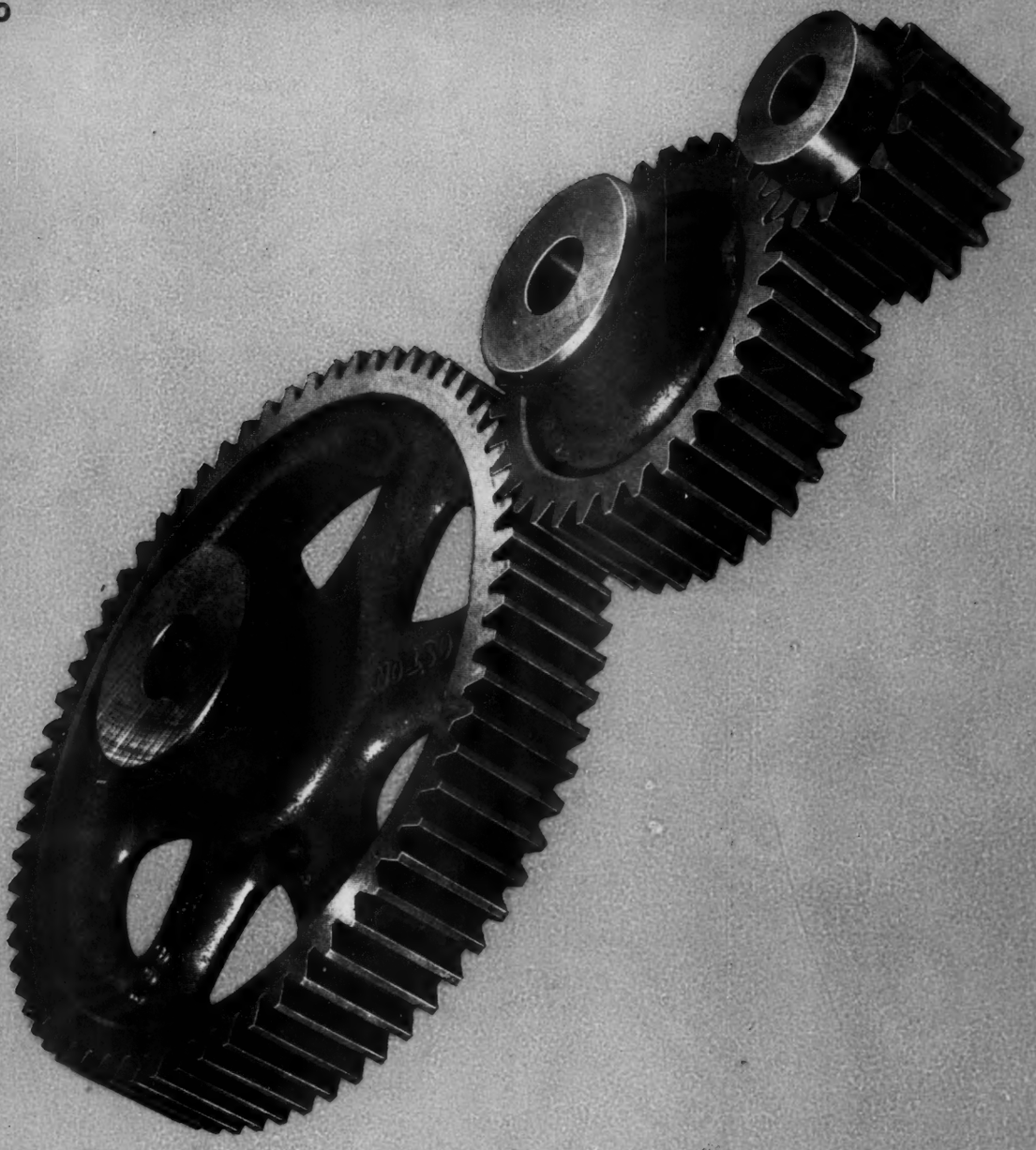
MAY 1950



PRINTING EQUIPMENT *Engineer*

EXHIBITOR
GRAPHIC ARTS EXPOSITION
CHICAGO SEPTEMBER 11-23 1950

How rotary

letterpress helps you meet rising costs

COTTRELL

In the printing business you get your money from *production*—from the sheets you print and ship. It's the *cost per sheet* that determines whether you make a profit or lose money. To keep the cost per sheet down, you need increased production—more sheets per man-hour, per press-hour, and per square foot of floor space. That's the only way to remain competitive, to keep your shop busy, to keep your men employed.

Today commercial printers all over America are finding rotary letterpress the answer to the rising cost problem. It's the modern answer to the industry's demand for quality production at higher speeds. Rotary is *not* a different method—it's the *better modern* method for letterpress printing.

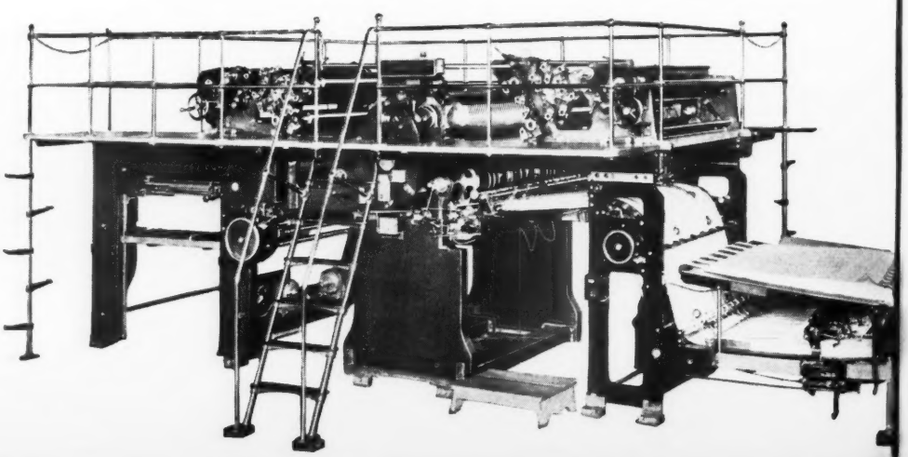
Get the whole story. Find out what rotary letterpress is doing for others, and whether or not you can use it. Write for full information, and the names of printers near you who are using Cottrell sheet-fed rotaries.

If you request it, we will ask a Cottrell Counsellor to work with you, to help you analyze your problems, so that you can *judge for yourself* whether rotary printing will be profitable for you.

C. B. COTTRELL & SONS COMPANY, Westerly, Rhode Island

Claybourn Division: Milwaukee, Wisconsin • *Sales offices: New York, Chicago, London*

• Cottrell 2-color sheet-fed rotaries for commercial printers come in four standard sizes suitable for medium-size runs at highest speeds. It costs no more to own a rotary. It does the kind of work a pressman will be proud of, without all the fuss and trouble and delays of old-fashioned methods. Want to know more? Drop us a note!

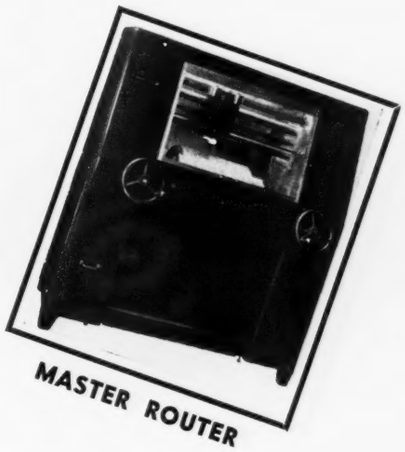


COMING SOON!

A GREAT NEW ADDITION TO THE DISTINGUISHED STA-HI "MASTER" LINE OF MACHINERY

MASTER FORMER

MASTER_____?



MASTER ROUTER

- Coming in June!... Next month STA-HI will proudly present its latest development —an entirely new and mechanical means of handling an old and growing problem in newspaper production.
- Like the STA-HI Master Former, it is used in the processing of dry mats prior to the casting operation. Like the STA-HI Master Router, it makes possible more precision, more perfect results in color work. Like all STA-HI equipment, it is faster, more efficient, more economical than previously used machinery and methods.
- Many months of research, laboratory tests and highly successful trial runs in actual daily newspaper production routine are behind this new machine. It is destined to make possible increased use of newspaper color by cutting costs of transferring color copy into the finished product.
- This newest member of the STA-HI "Master" Family will be officially "unveiled" at the ANPA Mechanical Conference in Buffalo, N. Y., June 12, 13 and 14. A machine will be demonstrated under actual working conditions.
- If you attend the Conference, be sure to see this latest "Master" in operation at STA-HI's Exhibit Booths 16 and 17. Watch for formal announcements in June in trade publication and direct mail advertising!

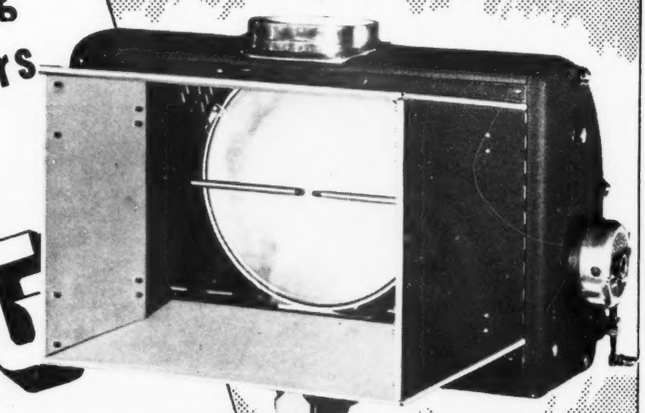
STA-HI

SUPERIOR NEWSPAPER PRODUCTION MACHINERY

STA-HI CORPORATION • 235 W. WASHINGTON BLVD. • WHITTIER, CALIF.

Make Large Plates Faster

with
Extreme Uniformity
Absence of Undercutting
Reduction of Makeovers
with the



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Other Grafarc models available for camera, composing machine, horizontal and vertical printing frames.

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EXHIBITOR
GRAPHIC ARTS EXPOSITION
CHICAGO · SEPTEMBER 11-23 · 1950

Bed Size.....23″ x 29″

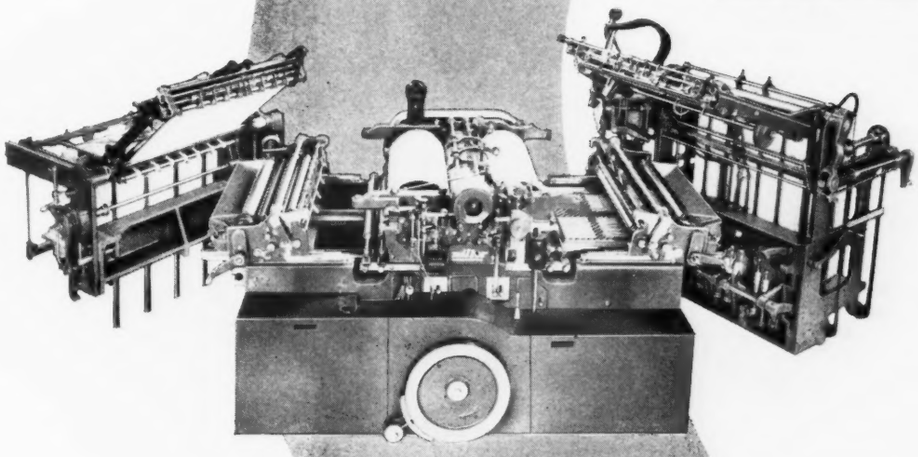
Maximum Sheet.....21″ x 28″

Maximum Size form on bed.....19¼″ x 28″

Maximum Size form in chase....19¼″ x 26″

Range of operating speeds.....2200 to 4000 (8000 imps.)

Miller



21 X 28 TW TWO-COLOR LETTERPRESS

Its performance will prove its value. Demonstrations can be arranged at your convenience—write today.

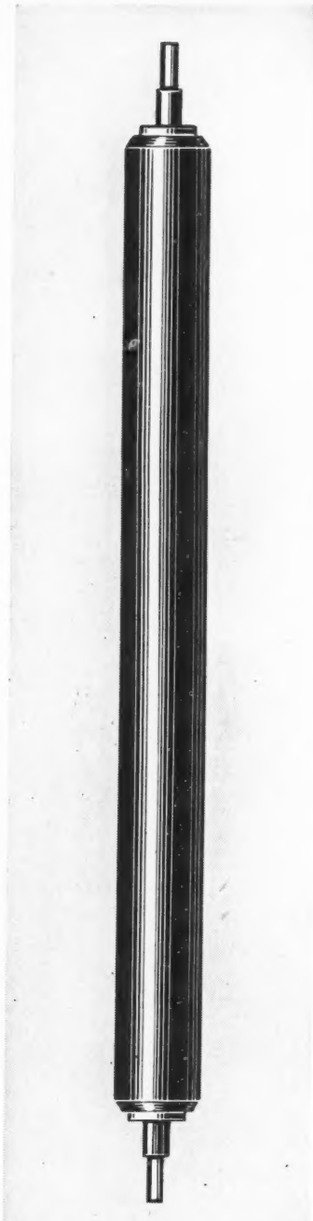
24 Pages—Modern Design—Printed in 4 colors well illustrated floor plans complete specifications

This booklet is yours for the asking—without obligation—A complete description of the 21x28 TW Two Color Press

MILLER PRINTING MACHINERY CO., *1103 Reedsdale St., Pittsburgh 12, Pa.*

OVER ONE HUNDRED YEARS OF ROLLER MAKING

SAM'L BINGHAM'S SON MFG. CO.



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RUBBER • NON-MELTABLE • FABRIC COVERED
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COMPOSITION • VARNISH-LACQUER • GRAINING

ROLLERS

IT'S NOW TIME TO GET YOUR ROLLERS READY *for* SUMMER USE

SHIP YOUR OLD ROLLERS TO
THE FACTORY MOST CONVENIENT TO YOU

16 Modern Factories Serving Printers in 31 States

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ATLANTA 3
CHICAGO 5
CLEVELAND 14
DALLAS 1
DES MOINES 2
DETROIT 10
HOUSTON 6
INDIANAPOLIS 2

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MANUFACTURERS OF
PRINTERS' ROLLERS
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PITTSBURGH 3
ST. LOUIS 2
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Pacific Coast Sales Representative; THE CALIFORNIA INK CO., INC.

EXHIBITOR
GRAPHIC ARTS EXPOSITION
CHICAGO SEPTEMBER 1 - 12, 1950

PRINTING EQUIPMENT *Engineer*

A TECHNICAL MAGAZINE

Published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in the commercial, magazine, private plant and daily newspaper fields.

MAY 1950

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PRINTING EQUIPMENT *Engineer* is an

EXHIBITOR

GRAPHIC ARTS EXPOSITION

CHICAGO · SEPTEMBER 11-23 · 1950

Ninth Production Yearbook

A New Reference Volume For Mechanical and Production Executives

Commercial and newspaper printing plant executives will find constant use for this encyclopediac volume.

Many new features included on photoengraving, typography, electrotypes, printing processes, paper, binding, mailing and photography.

Size, 8½ in. by 11¼ in.; 918 pages include 4000 subjects listed in the index, 659 editorial illustrations, and other features.

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PRINTING EQUIPMENT Engineer
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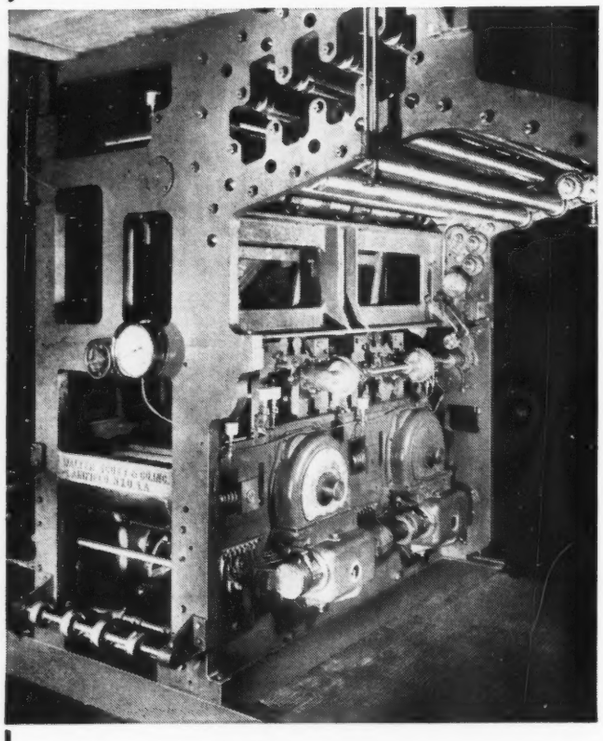
Can Your Press Folders Handle

96 PAGE FULL SIZE PAPERS

at Fast Speeds?

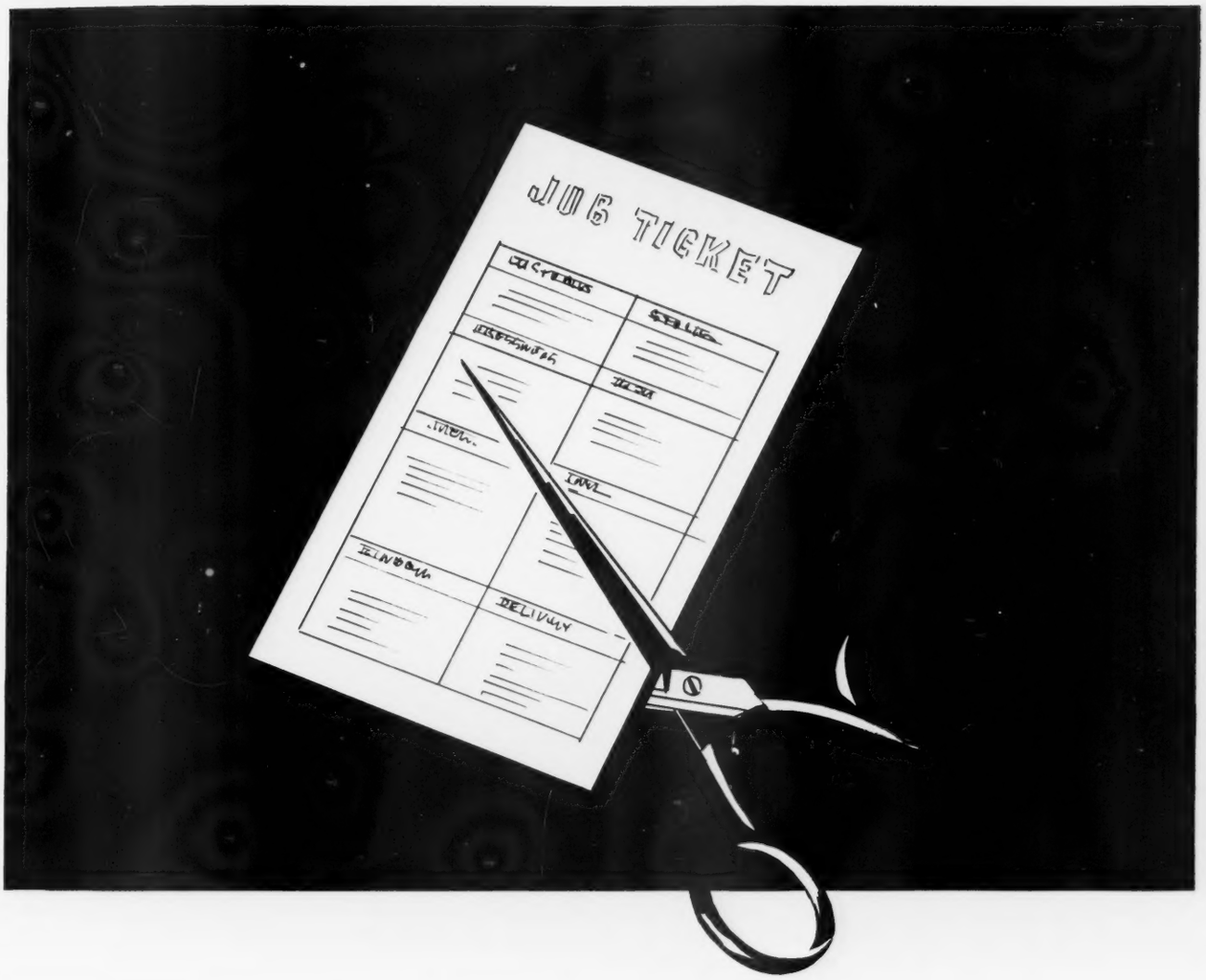


SCOTT FOLDERS at the *Detroit News* have for several Sunday editions, run 92 pages standard size papers AT 42,000 SPEED.

They are now running 96 page Sunday papers regularly at 38,000 speed, which is sufficient for their requirements.

•You may not require a 96 page product often, but isn't it satisfying to know that your press-room can turn out 96 pages whenever required at their regular speed, without "babying" the folders?

WALTER SCOTT & CO., INC.

PLAINFIELD, N. J.

The best ads for Mercury products are not printed in magazines—they're written on job tickets. That's where the performance story really shows up. To reduce production time, for more profitable job tickets, install Mercury rollers and blankets.

RAPID ROLLER COMPANY

D. M. RAPPORT, Pres. Federal at 26th Street CHICAGO 16

NEW ATF
LITTLE GIANT

MODEL 6

SMALL SIZE...

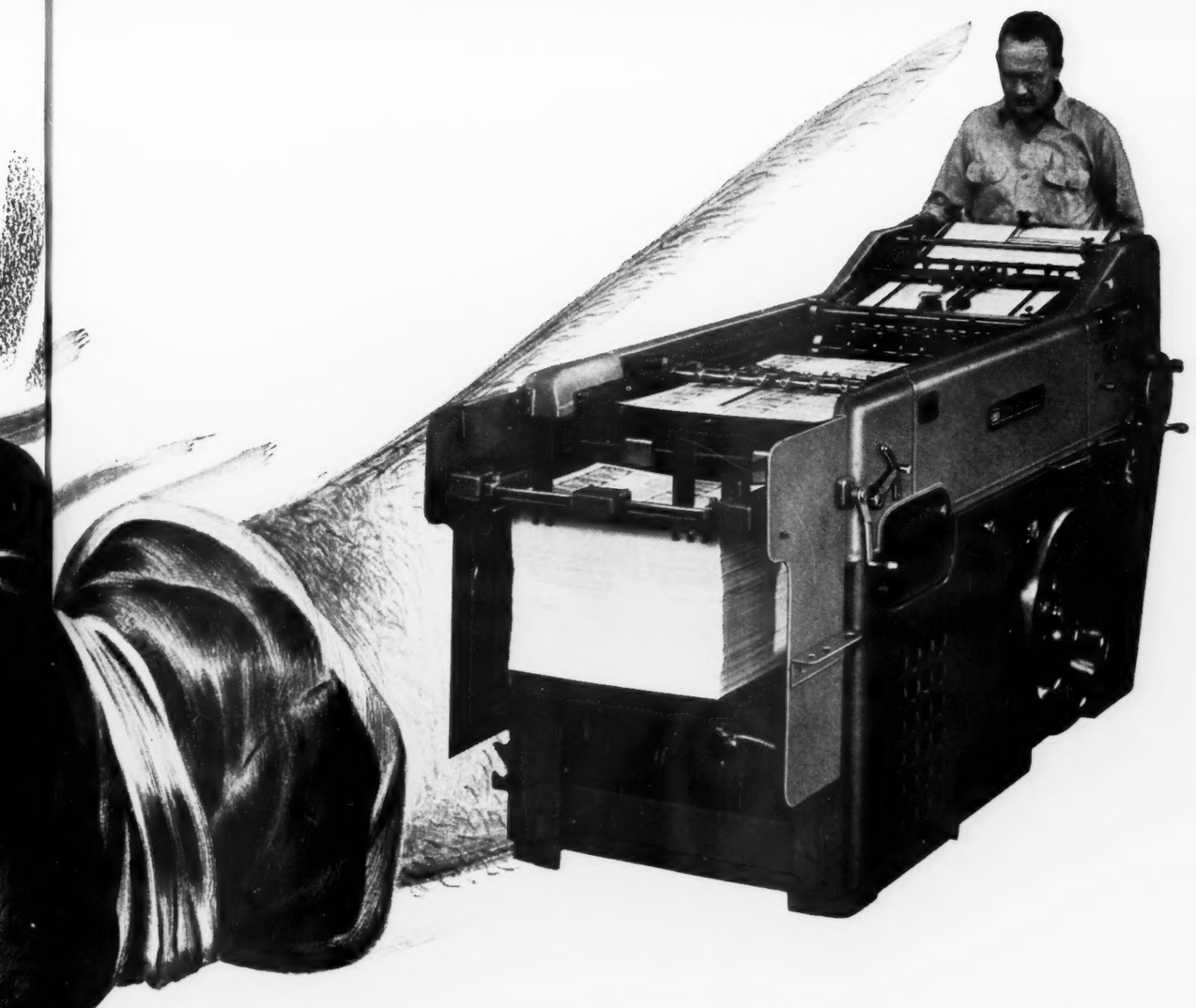
BIG WA... OP.

American Type Founders

200 Elmora Avenue, Elizabeth B, New Jersey

Branches in Principal Cities

An ATF Associate



A 12"x18" bantam champ that socks 'em harder, knocks 'em out faster, and gives you a bigger gate than any press this size you ever saw

Business today isn't a game you play. The blows that land are all that count. This Little Giant keeps feeding 'em fast with a variable stepless speed control from 2500 to 5000 impressions per hour, bears down on 'em with at least 75% more impressional strength, makes one fountain filling do a longer run, takes on all comers from tissue to gummed labels to postal cards or 4-ply cardboard. The new Model 6 never feints, fouls or fumbles, whatever the task or the time to do it in, but doles the sheets to the grippers at top speed without misses or doubles, flattens 'em on the tapes and conveys 'em straight to the jogger and delivery table, to pile two feet high—all salable sheets of the finest quality printing! Really, you never saw such a press as the Model 6 Little Giant.

GIVE THIS PRESS A CHANCE in your shop and you'll quickly find it king of the ring, paying out handsomely on any job within its size range. Ask your ATF Representative.

Manufacturers of Kelly Presses, Little Giant Presses, Chief Offset Presses, Web-fed Offset Presses, Gravure Presses, Foundry Type and Process Cameras. Distributors of Vandercook, Challenge, Chandler & Price, Hamilton, Rosback Equipment for Composing Room, Pressroom, Bindery.

NOW!

An Important New Development in Offset Prevention!

POSITIVE POWDER CONTROL

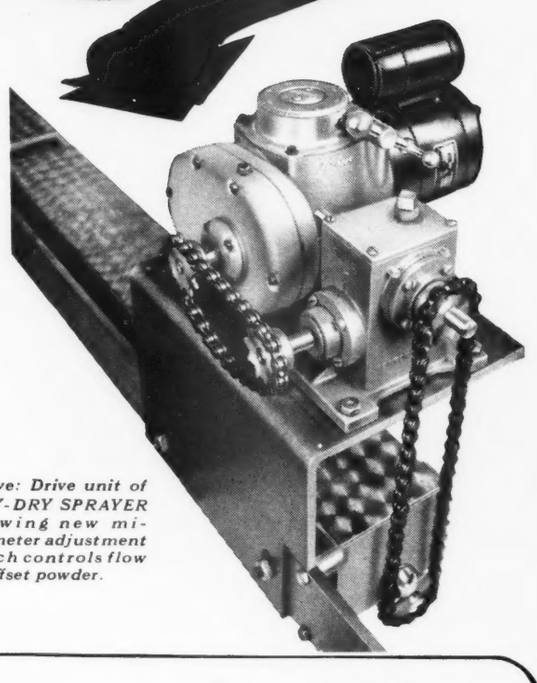
with the new OXY-DRY SPRAYER MICROMETER CONTROL

Now with "POSITIVE POWDER CONTROL" you not only get all the regular advantages of OXY-DRY offset prevention —you also have an accurate method of controlling the *amount* of offset powder applied to each printed sheet. OXY-DRY's new micrometer "POWDER CONTROL" setting operates quickly, without stopping the press. Here's a sure, accurate way to adjust the distribution of powder to press speed and ink conditions!

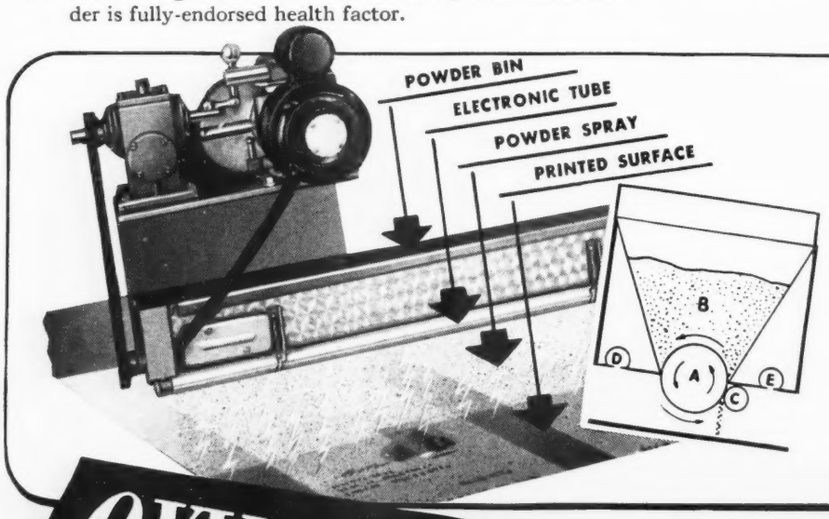
OXY-DRY continues to lead in solving offset problems in hundreds of plants—on all kinds of equipment. Let us tell you in detail how OXY-DRY SPRAYERS will save money for you. Write today!

Here Are the Advantages of the OXY-DRY SPRAYER

1. Uniform Offset Prevention on all types of work.
2. Positive Powder Control—with new micrometer speed adjustment.
3. Elimination of Static Electricity from Sheets permits easy flow of work.
4. Fast Drying of Ink and Faster Handling of Sheets permits full press delivery.
5. Time and Labor Saved, fewer press interruptions.
6. No Dusting Hazard—small amount of powder used. Powder is fully-endorsed health factor.



Above: Drive unit of OXY-DRY SPRAYER showing new micrometer adjustment which controls flow of offset powder.



HOW THE OXY-DRY SPRAYER WORKS

● As brass cylinder (A) revolves, anti-offset powder (B) is distributed past electronic tube (C) receiving 10,000 volt positive charge and bonding instantly across freshly-printed surface below. The static electricity (negative electric charge) in the paper is instantly dispelled. Air vents (D & E) set up air curtains, and are required only under extremely drafty shop conditions. Micrometer setting controls speed of revolution of cylinder (A).

OXY-DRY

For further information write Dept. E

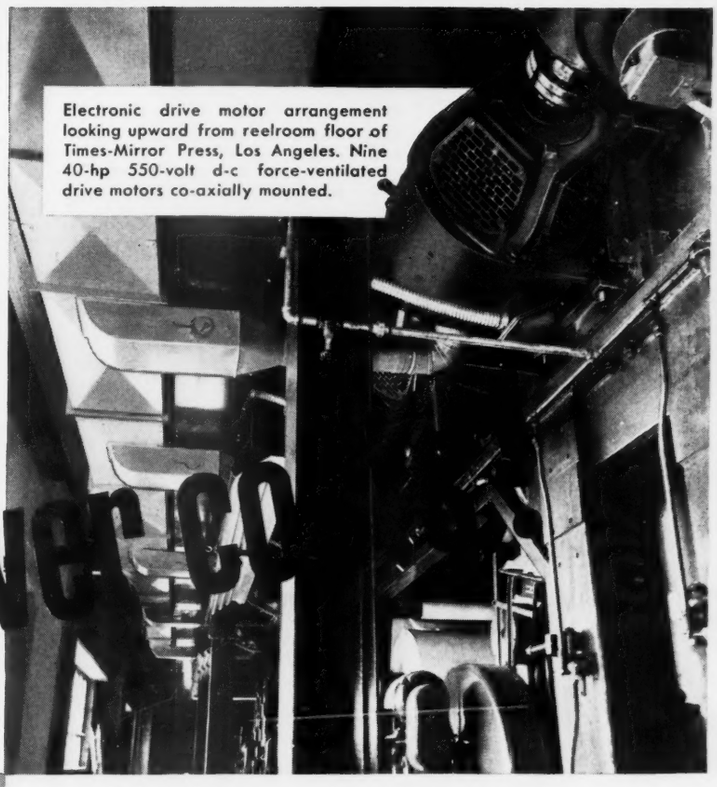
OXY-DRY SPRAYER CORP.

320 So. Marshfield Ave., Chicago 12, Ill.

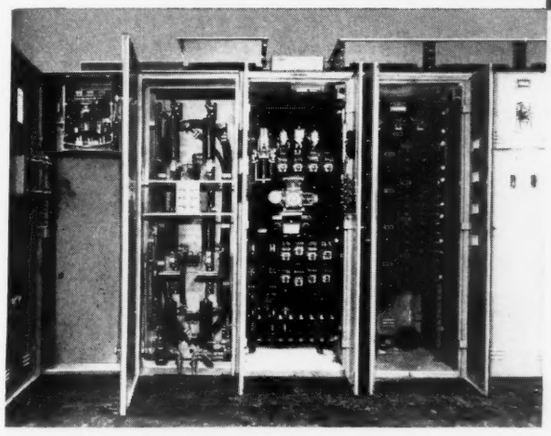
FULL-PRESS-DELIVERY OFFSET PREVENTION

Times-Mirror Press Says:

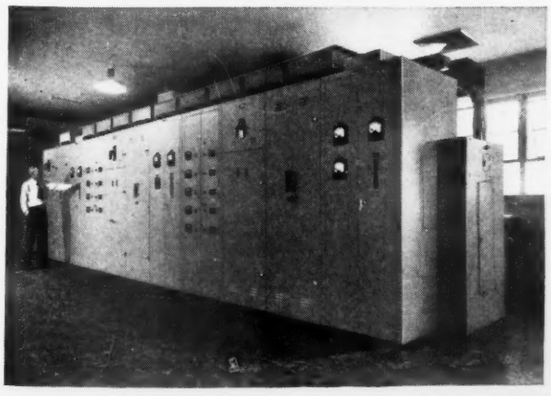
ELECTRONIC PRESS DRIVE cuts power co



Electronic drive motor arrangement looking upward from reelroom floor of Times-Mirror Press, Los Angeles. Nine 40-hp 550-volt d-c force-ventilated drive motors co-axially mounted.



Interior view of control cubicles for operating one press. More units can be added easily to this block.



Electronic drive control room of the Times-Mirror Press showing equipment for operating three presses.

Installation Costs Also Reduced to a Minimum

"The new General Electric electronic press drive recently installed in our plant cuts power costs because it operates efficiently at all speeds. There's no efficiency drop at low speeds, and no power lost in secondary resistor heat," says J. A. "Johnny" Johnson, Chief Electrician of the Times-Mirror Company, Los Angeles.

"Installation costs were also reduced to a minimum. Putting in the drive was fast and easy because there is no need for extra threading motors, reduction gearing, overrunning clutch, or drive brakes—one motor on each unit does it all. Installation of control was no problem because the cubicles came from the factory already assembled and wired and needed only to be bolted down and interconnected."

For more information on this outstanding new system . . . "the press drive of the future" . . . mail the coupon below . . . today!

Section A653-5 Apparatus Department
General Electric Company
Schenectady 5, N. Y.

Please send me your bulletin, GEA-4670, "Now Electronics Drives Printing Presses."

Bulletin needed for: ..... Reference purposes
..... Planning immediate project

Name ..... (Please Print)

Company .....

Position .....

Address ..... Zone ..... State .....

City .....

GENERAL ELECTRIC

653-5

To fold Big Runs of Circulars, Broadsides and other Direct Mail Pieces... at HIGH SPEED and LOW COST!

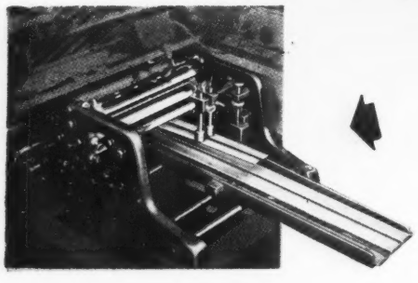
The Cleveland Model "W" Folder disposes of long runs of letters, circulars, folders, broadsides and package inserts—in a hurry!

It's flexible. Makes one fold, two parallel folds; one fold, followed by one, two or three right angle folds. Handles sheets as large as 14 x 20″—as small as 3 x 4″.

Has friction continuous feeder, simplest type available for average run of work. Continuous loading eliminates reloading stops, thus helping promote maximum production in any given period. Equipped with variable speed device which permits sheets of any length to be fed practically end to end—and at any speed.

Airwheel continuous single board feeder is also available for handling glossy stocks, solid plates and bleed edges. Both types are equipped with caliper which prevents the feeding of more than one sheet at a time.

As the first step toward expediting big runs of circulars, broadsides and other direct mail pieces—and cutting down folding costs, write us for more information about the Cleveland Model "W" Folder.



SMALL SIGNATURE ATTACHMENT

. . . for folding package inserts to as small as ¾" in width

The increasing use of package inserts calls for a fast, efficient machine, capable of folding small signatures. This attachment for the Cleveland Model "W" fills the bill perfectly and will greatly increase the scope and value of this Cleveland Folder.

Dexter • McCain • Christensen

Machines for Printers and Binders

EXHIBITOR
GRAPHIC ARTS EXPOSITION
CHICAGO SEPTEMBER 11-23-1950

Dexter Folder Company

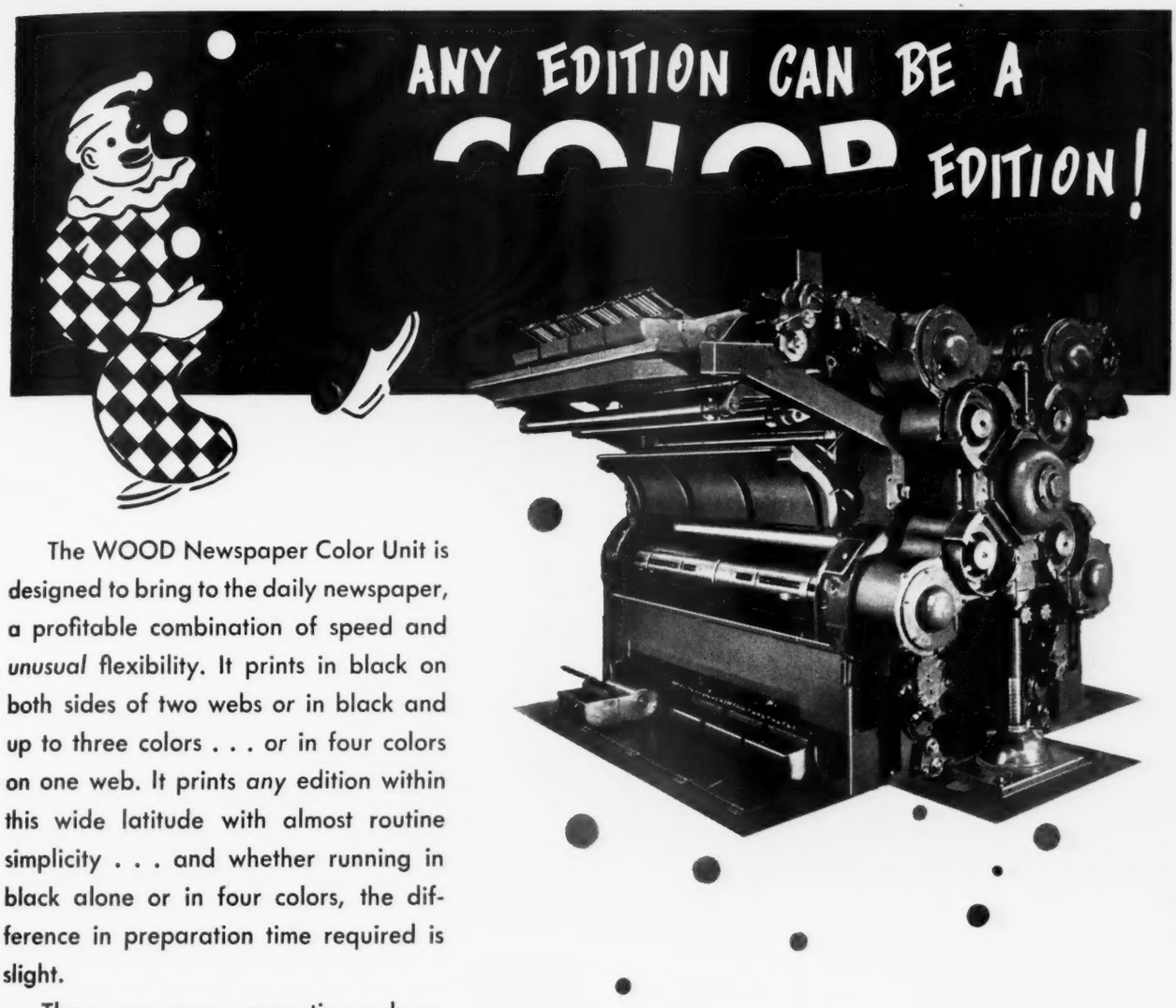
Associated with the de Florez Company for Special Engineering

General Sales Offices, 330 West 42nd Street, New York 18, N. Y.

SALES REPRESENTATIVES: Chicago · Philadelphia · Boston · Cleveland · Washington · St. Louis

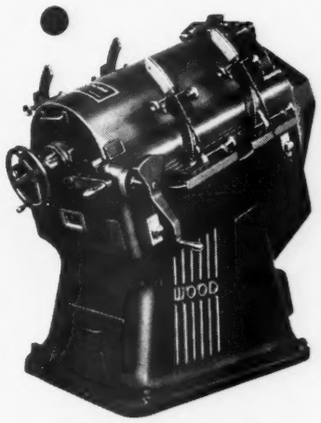
AGENTS: Dallas · Denver · San Francisco · Los Angeles · Seattle · Toronto · Montreal · Winnipeg . . . and in Foreign Countries

ANY EDITION CAN BE A COLOR EDITION!



The WOOD Newspaper Color Unit is designed to bring to the daily newspaper, a profitable combination of speed and *unusual* flexibility. It prints in black on both sides of two webs or in black and up to three colors . . . or in four colors on one web. It prints *any* edition within this wide latitude with almost routine simplicity . . . and whether running in black alone or in four colors, the difference in preparation time required is slight.

There are *many* operating advantages inherent in this WOOD unit, and each of them reflects itself in *low maintenance, less down time, and far greater control:* Short leads minimize possibility of web stretching and mis-register; backlash and torsion are reduced through a single gear drive of color and black cylinders; fountains are easily accessible for quick removal or replacement; individual couples are reversible for maximum flexibility of color position.



THE WOOD COLOR-PLATE PRE-REGISTERING MACHINE

. . . provides perfect register of color plates at the high speed required for daily newspapers. It operates independently and eliminates drains on press time. *When the plates reach the press room, they are ready for lock-up!*

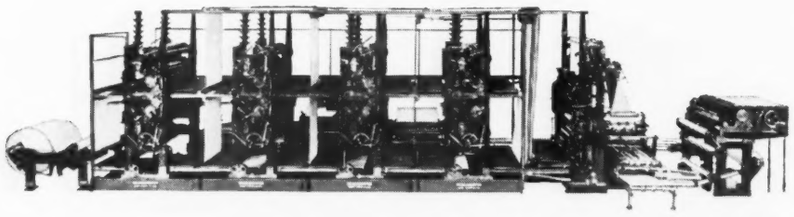
WRITE WOOD FOR SPECIFIC INFORMATION

IF IT'S Wood IT'S GOOD

WOOD NEWSPAPER MACHINERY CORPORATION

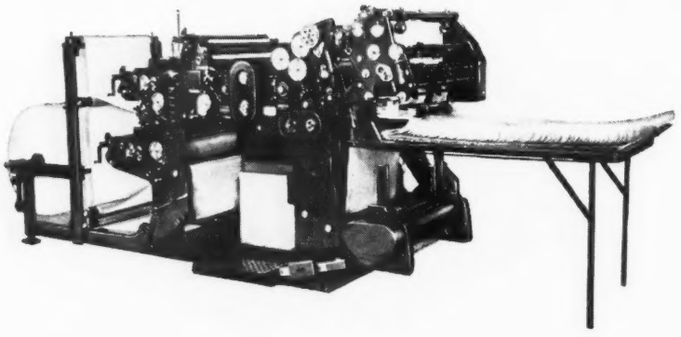
PLAINFIELD, NEW JERSEY • SALES OFFICE: 501 FIFTH AVENUE, NEW YORK 17

PROFIT FULLY ON THE TREND TO OFFSET WITH THE



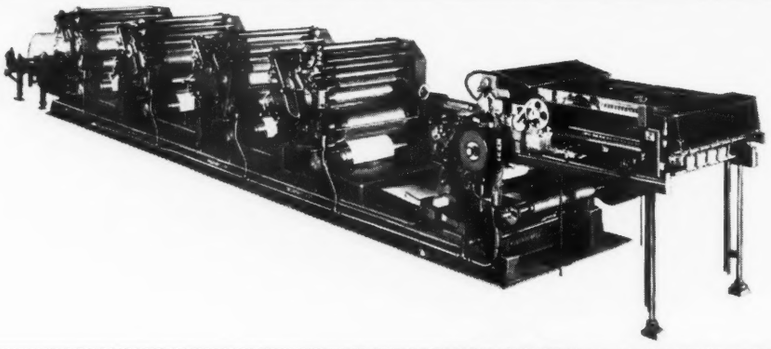
PUBLICATION PRESSES

The model illustrated here is a multicolor newspaper magazine style web perfecting press for standard size newspapers, tabloids, shopping guides, magazines, comics, direct mail posters, wrappers, broadsides and digest size booklets.



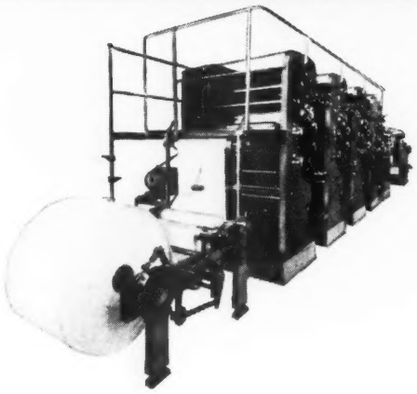
FORM PRESSES

These are high-speed sheet-fed presses for printing one-time carbon sets or continuous forms by offset, rubber and stereotype plates.



WEB COLOR PRESSES

This model delivers sheets or rewound rolls. Ideal for printing book jackets, post cards, box wraps, gift wraps, inserts and magazine covers, folders, broadsides, booklets.



SPECIALTY WEB PRESSES

The model illustrated here shows one of these presses built for printing desk calendars, pattern charts, place mats, instruction sheets, insurance policies and other special jobs.

THE *Greater Facilities* OF WEBENDORFER WEB-FED OFFSET PRESSES

- BOOK JACKETS
- BOX WRAPS
- LABELS
- GIFT WRAPS
- BROADSIDES
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- FOLDERS
- PARTS BOOKS
- MAGAZINES
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The tide is coming in! It's the trend! Offset's versatility in the production of printing, with the eye appeal demanded in these days of visual selling, is building up more and more volume.

And now web-fed offset brings you even greater versatility and lower production costs. Webendorfer web-fed offset presses and printing equipment offer these additional profit making facilities: printing on both sides in multicolor, folding, numbering, perforating, sheeting, and collating.

Are you being passed up by economy and delivery minded printing buyers for the lack of web equipment?

Why not look into this sound approach to future plant expansion? Ask for the illustrated brochure giving complete details of the four types of Webendorfer web-fed presses. One of these presses may be the ideal solution of your production requirement. Get ready to ride the tide. Write today.

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ATF

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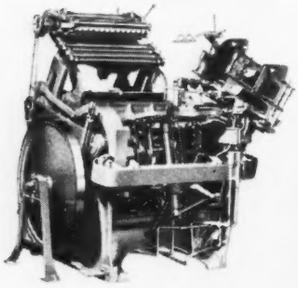
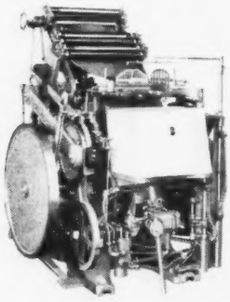
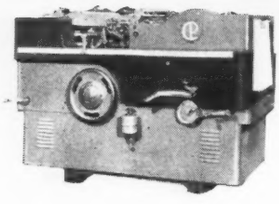
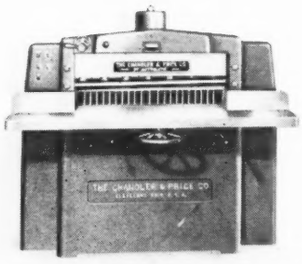
of the brochure showing the ATF Webendorfer web-fed offset presses

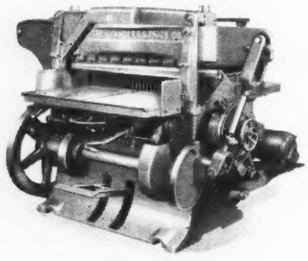
Protect Your Profits with Chandler & Price Equipment

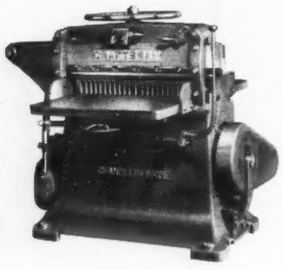






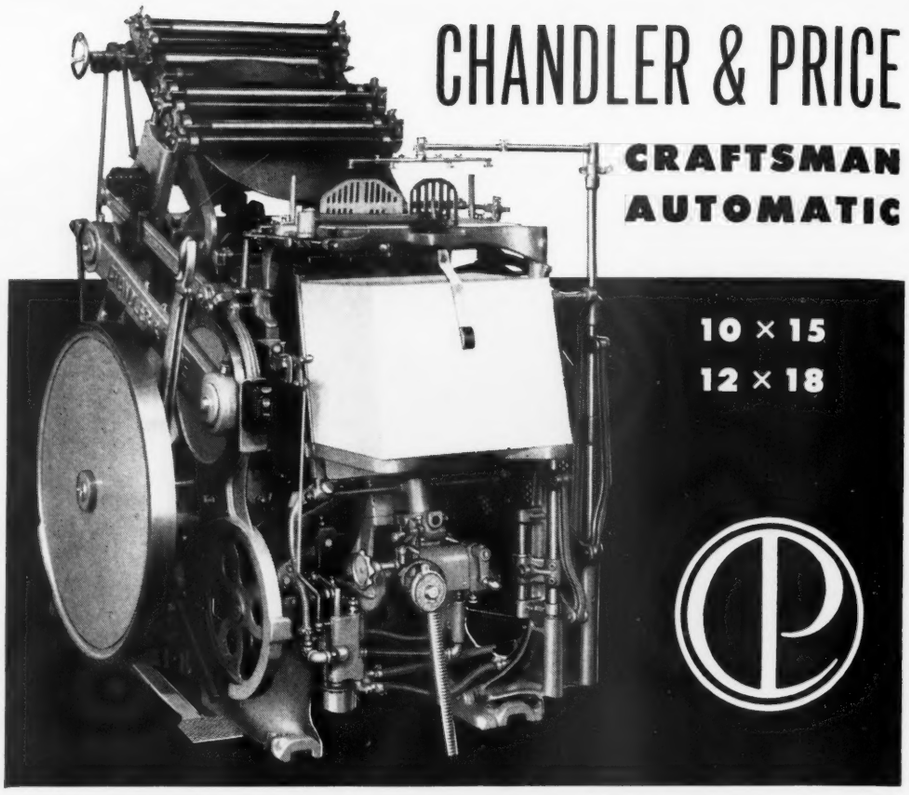






CHANDLER & PRICE

CRAFTSMAN AUTOMATIC



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DAILY average-work production records of 2000 to 2500 i.p.h. are not uncommon with the C & P Craftsman Automatic platen press. That's on average-run work—maximum speeds, of course, are approximately one-third higher.

Here are reasons why printers who have experienced the outstanding work of these presses will tell you a Craftsman Automatic is "the most profitable job press investment any printer can make":

1. Impression adjustments are a simple matter of a few turns on a handwheel—an exclusive C & P feature—cutting down makeready time from 20 to 40%

2. Automatic feeder handles 14½" pile of stock—from onion skin to 12-ply cardboard, including irregular shapes such as folding paper boxes and cut-out novelties.

3. Automatic joggers, both at back and sides of delivery pile, cut down later rehandling of printed sheets.

4. Automatic throw-off of press if sheet fails to feed.

5. Maximum ink distribution is secured by four roller-bearing form rollers with two vibrators.

If you use hand fed presses you are probably paying for a C & P Automatic. Why not profit by having one.

Write for new catalog which explains why so many printers have said C & P Craftsman Automatic presses are the most profitable job press investment any printer can make.

EXHIBITOR
GRAPHIC ARTS EXPOSITION
CHICAGO · SEPTEMBER 11-23 · 1950

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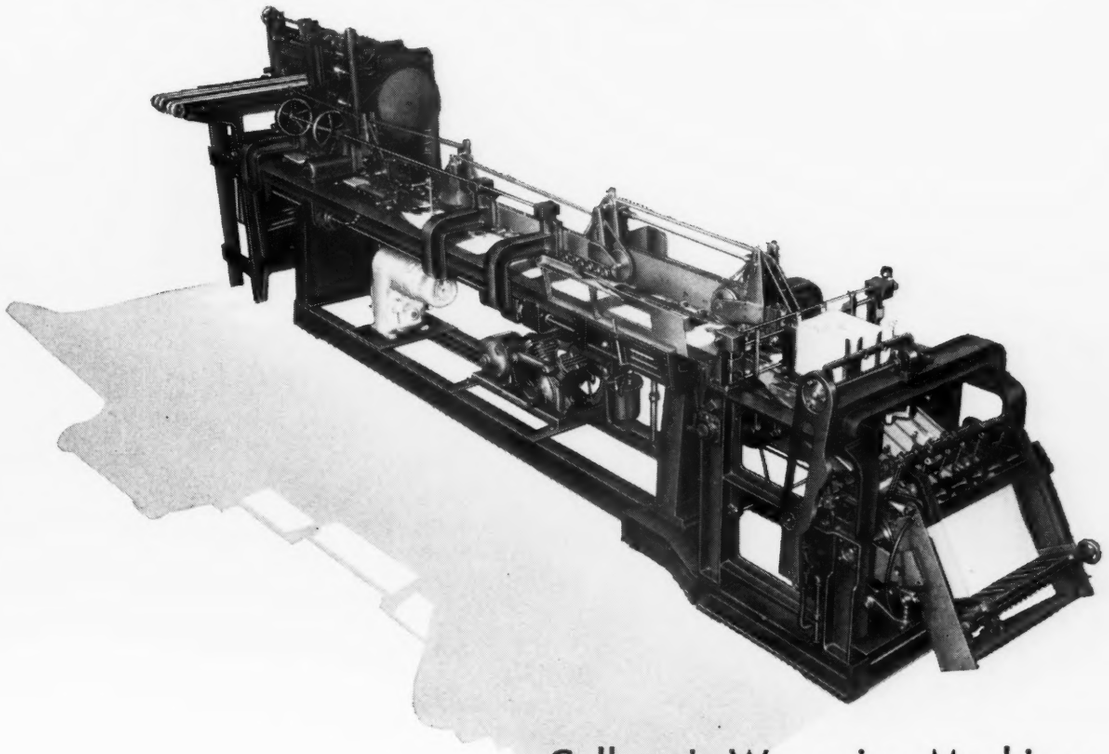
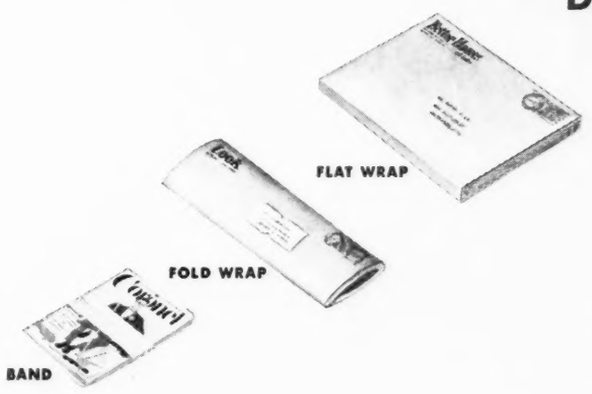


Collmar's Wrapping Machine
DOES ALL THREE!



Cut mailing room bottlenecks through installation of this new combination machine. Individual copies can be flat wrapped, wrapper printed and addressed all in one operation at speeds to meet production requirements. Fold wrapping can be done with the same equipment.

You can also band-wrap books for newsstand sale... feature article copy on the bands attracts buyers... bands protect copies from damage caused by "thumbing through."

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CHEMCO BURNING-IN OVEN AND COOLER MODEL 2800—A highly efficient Infra-Red heated oven available with the Chemco Stainless Steel cooler (choice of Diaphragm Type or Flow Type).

CHEMCO BURNING-IN OVEN AND COOLER

Infra-Red heating . . . automatic operation . . . . . ease of inspection . . . **each of these means increased efficiency and consistent economy in burning-in powdered zinc plates or hot top enamel used on copper.**

Infra-Red elements provide *even* burning-in for plates up to 24" x 24", and eliminate plate warpage and dimensional distortion. Automatic operation consumes power *only* when plate is in burning-in position. Inspection of plates may be made through a special window.

The Chemco Burning-In Oven and Cooler may be ordered with a foot-pump operated diaphragm type cooler or the flow type cooler using running water. Either type cools plates instantly.

Write for complete information now!

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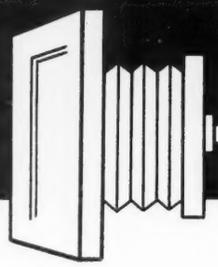
FACTORY AND GENERAL OFFICES GLEN COVE, NEW YORK



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CHEMCO PHOTOPRODUCTS CO., INC.
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Gentlemen: I am interested in learning more about your following products:

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They mean a lot when you buy equipment

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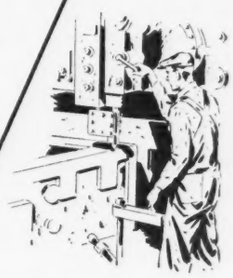

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LAKE ERIE
ENGINEERING CORP.
BUFFALO, N.Y. U.S.A.

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ABILITY

meaning the ability of the manufacturer to design and build equipment that is *efficient and dependable.*

LAKE ERIE is one of the world's largest manufacturers of... and a recognized leader in the development of... hydraulic machinery.

LAKE ERIE has had over fifteen continuous years of specialized experience in the development of hydraulic plate-making equipment.

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meaning the manufacturer's responsibility for his equipment *after it is sold.*

LAKE ERIE equipment is designed, manufactured and serviced by one organization ...whether it is sold direct or through an authorized agent. *There is no division of responsibility*... and never any question about it.

The first hydraulic plate-making equipment ever made by Lake Erie is still operating... and Lake Erie is *still prepared to service it after fifteen years.*

You can depend on the Ability and Responsibility of the Lake Erie Organization

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Offices in Principal Cities and Foreign Countries

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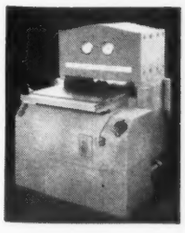
● Leading manufacturer of hydraulic presses—all sizes and types—stereotype molding... plastics molding... laminating... die sinking... metal working... forging... metal extrusion... waste wood and plywood... rubber vulcanizing... special purpose.



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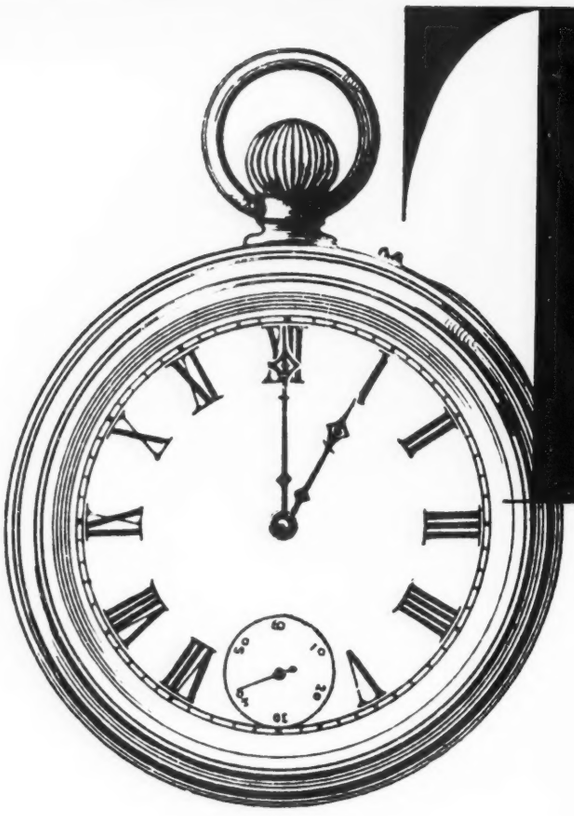
Over 380 Acraplates are now in service... far more than all other makes of equipment combined. And there are far more models of Acraplate to select from when you buy... to assure that you get the most efficient machine possible for your specific purpose.

● **WRITE** for descriptive literature or recommendations. No obligation.



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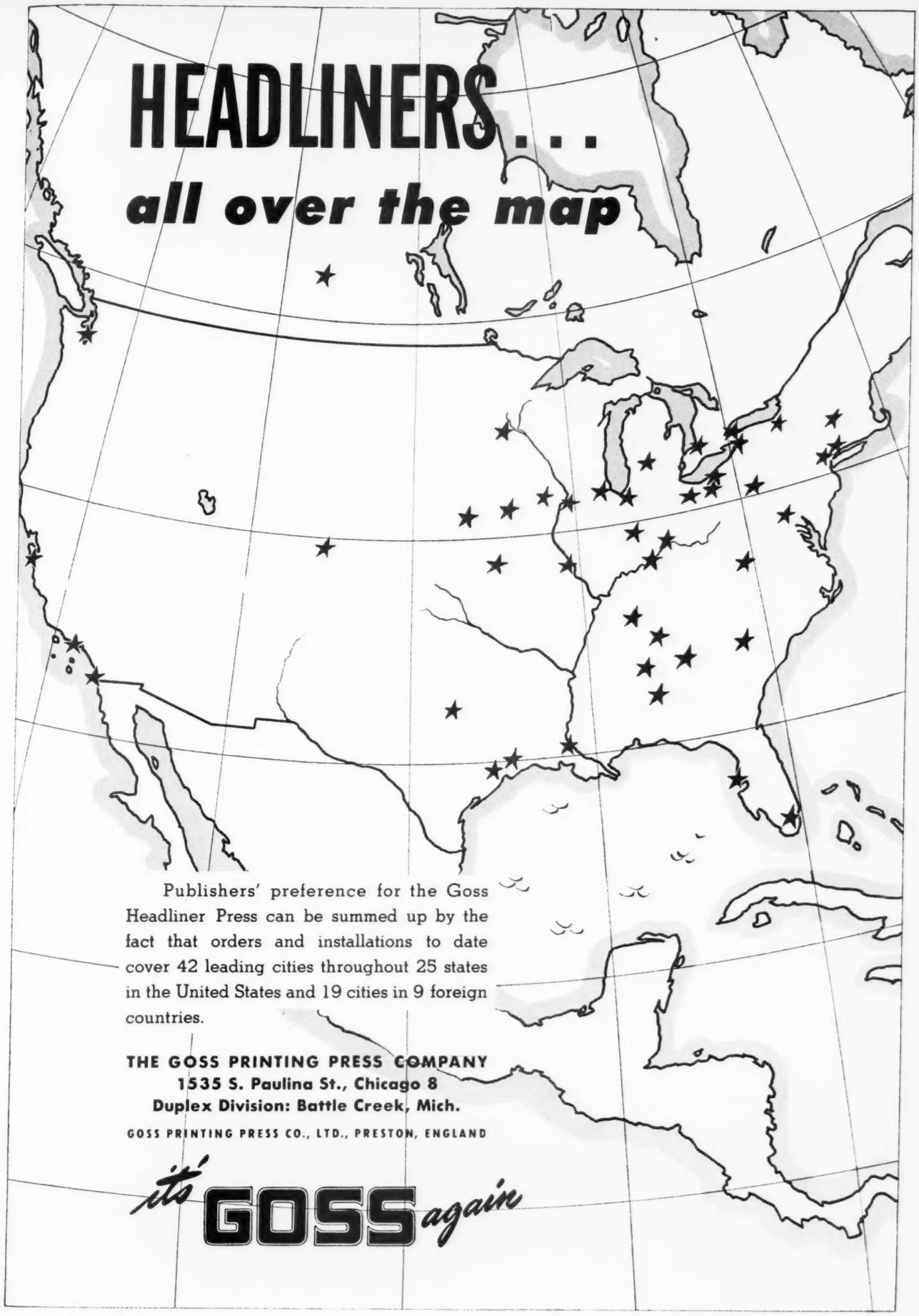

Publishers' preference for the Goss Headliner Press can be summed up by the fact that orders and installations to date cover 42 leading cities throughout 25 states in the United States and 19 cities in 9 foreign countries.

THE GOSS PRINTING PRESS COMPANY
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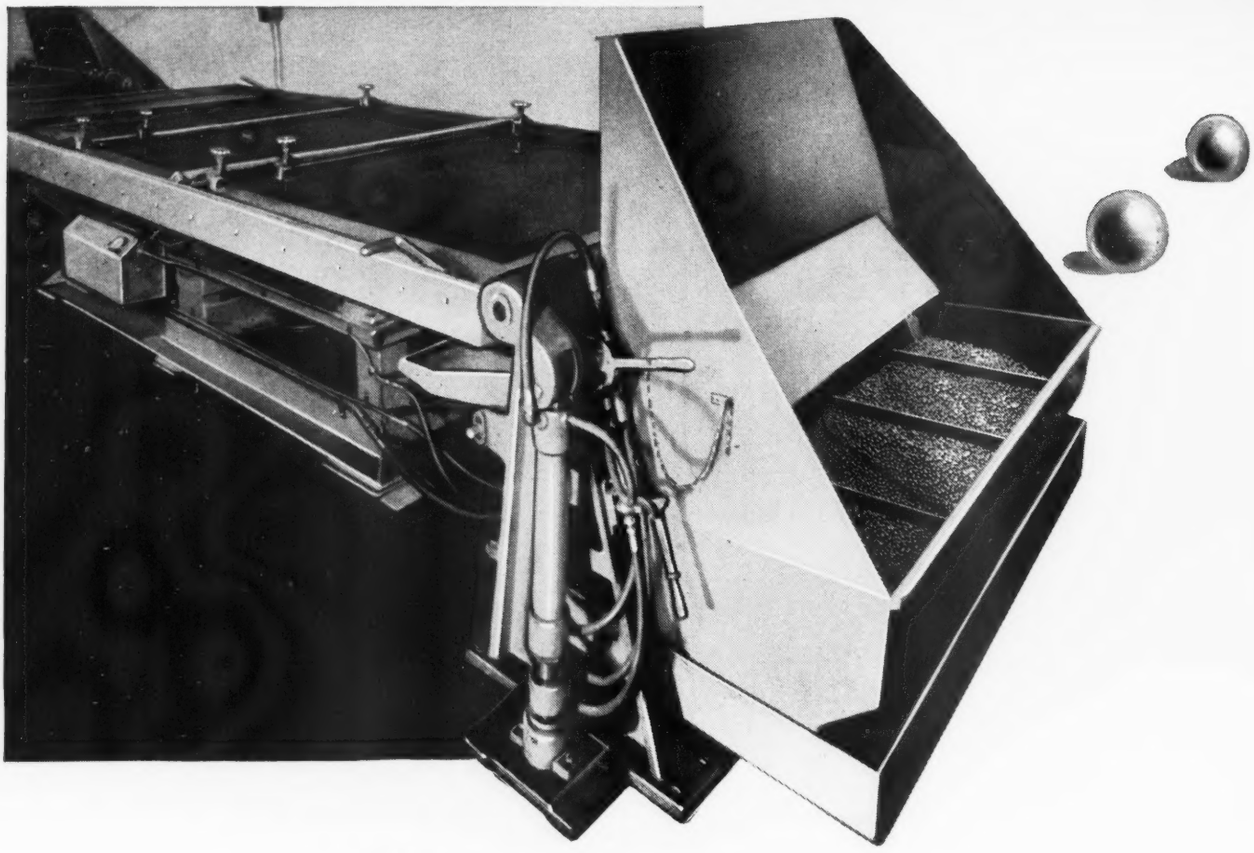
GOSS PRINTING PRESS CO., LTD., PRESTON, ENGLAND

it's **GOSS** *again*



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Zenith Plate Graining Machines are precision built . . . designed to produce consistently the best possible grain on lithographic plates. It utilizes a layer of SKF Atlas Steel Balls with an abrasive and water to apply a uniform graining load and action over each individual increment of the entire area of the plate. Atlas Steel Balls are used because SKF manufactures them to strictest standards of uniformity . . . inspects them microscopically and electronically to insure that uniformity is being constantly maintained. SKF standards are high . . . and there is never any compromise with quality. If you are faced with the problem of selecting the proper steel ball . . . the bearing that is exactly right for the job . . . the suggestions of SKF Engineers will be profitable and useful to you.

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Here's One Way You Can Help to Cut Makeready Costs in Your Plant!

No other single factor is more directly responsible for the millions of dollars spent annually on makeready than badly mounted plates. For, no matter how good the halftones or zincs in a mixed form may be, they cannot be printed or plated satisfactorily if they are mounted on blocks that are warped, over or under type high, or dimensionally inaccurate in any other way.

The answer to this problem is a Vandercook No. 11 Block Leveller. It will correct warped blocks. It will produce accurate, smooth surfaces—with both sides parallel to each other. It has adequate speed, is simple to operate, has few controls, and will cut wood, lead alloy, aluminum, magnesium and plastic mounting materials.

***Write**... us for further information regarding the Vandercook No. 11 Block Leveller and other suggestions for handling the plate mounting problem.*

SPECIFICATIONS

Capacity	12″ x 18″
Floor Space	2′ 6″ x 3′ 6″
Height	4′ 9″
Net Weight	1300 Lbs.
1 h.p. Ball Bearing Cutter Motor	
¼ h.p. Ball Bearing Table Motor	

VANDERCOOK PRE-PRESS SYSTEM —CUTS COSTS!

VANDERCOOK & SONS, INC. 900 NORTH KILPATRICK AVENUE, CHICAGO 51, ILLINOIS

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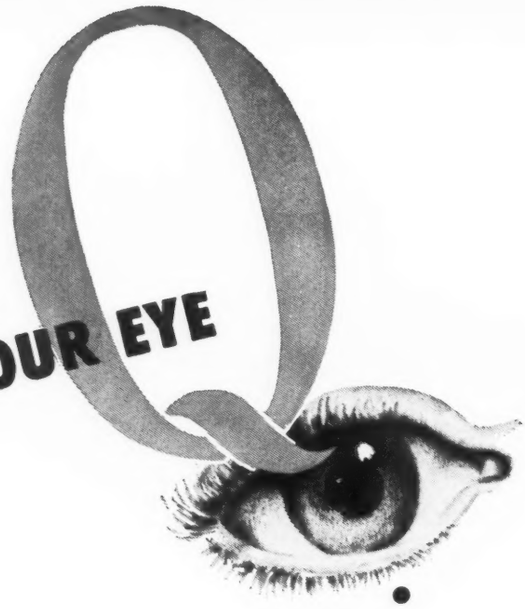

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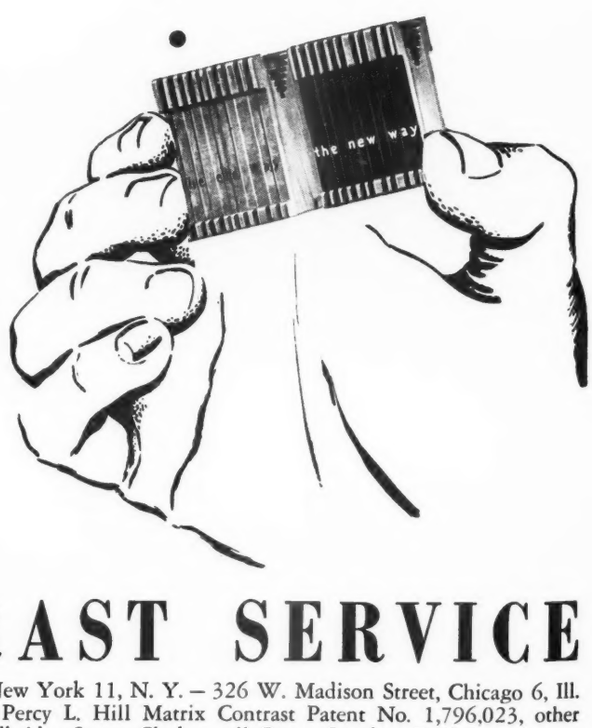
IF YOU haven't looked into Matrix Contrast Service lately, you'll find that it is worth more to you today because of your greatly increased operating costs. Match its yearly costs against your savings of one-third of all errors in machine composition and you'll be way ahead with Matrix Contrast Service.

Black and White Contrast matrices have a visibility approximately equivalent to 9½-point type . . . as compared to used non-processed matrices which have a visibility equivalent to 3-point type under the same test conditions. This proves that operators can "see what they set" when machines are equipped with sharp, clean-etched Matrix Contrast reference marks. And now, with the new and improved Matrix Contrast Colors, operators can tell at a glance if there's a "wrong-font" in the line . . . you can't miss the bright contrasting colors.

Write to our nearest office for facts and figures on the low cost of using Matrix Contrast Service and the amazing savings in errors directly attributable to its use.



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PRINTING
EQUIPMENT
Engineer

May 1950

Front elevation of building now occupied by Trojan Press, Los Angeles, Calif. Frontage is 49 ft. by 95 ft. 5 in. depth. Building is constructed of steel reinforced concrete-pumice block with Arizona flagstone trim on front exterior.

Combination Letterpress-Offset Plant

It's of small size—Equipment layout carefully engineered—Cut-cost operation permits making profit when going is tough.

By **ROBERT ROYDEN GREER***

**Printing Engineer, Los Angeles, Calif.*

TROJAN Press, at 811 North Highland Ave., Los Angeles, Calif., in less than 10 years, has grown from a plant containing one C & P hand-fed job press, into a letterpress-offset plant containing eight presses. Aside from that observation, Trojan Press now is located in its own building. True, the company still is classed as a small plant, but by comparison with its initial size, the expansion is noteworthy. The actual situation is that in the Graphic Arts industry there are so many small plants in proportion to the large ones that the story about Trojan Press makes interesting reading to a great number of printing executives.

It is extremely difficult for a writer or engineer to convey to the reader how carefully engineered floor plans and work flow diagrams save management so many dollars or so much production time at so much per hour. This writer confesses he would like to present in this article the actual dollar saving in the case of the Trojan Press but the task is beyond his capabilities. In this type of editorial article, the floor plan with workflow diagram can be explained, but the reader must do his own analyzing with respect to plant efficiency.

Considering the start of the Trojan Press about 10 years ago, it might be remarked that neither Mr. Doye nor Mr. Crosetti found the sailing easy. Growing pains beset Trojan management; occasionally, financial problems depressed management's spirit; stomach ulcers were developing, and the skies looked gray about a year and a half ago when the landlord exercised his prerogative by telling Mr. Doye to move. Out of these problems came the decision to build. Financial problems eventually were solved. But the partnership couldn't see, at first, how the proposed equipment layout in a new location would be profitable. The end of the story is that the partnership now is greatly pleased with both the new building and production. The writer believes readers of *Printing Equipment Engineer* will find the accompanying discussion (within the limits mentioned above) interesting and informative.

The two Trojans putting their shoulders to the wheel of fortune, and with diligence in fostering an expanding company are: Charles Doye and his son-in-law, Victor J. Crosetti. Both are competent printers. Recently, Leon Charles (formerly of Graning & Charles) has become associated with Trojan Press. Mr. Charles is a salesman and typographer with creative ideas.

In the Trojan Press is executed what might be called general-run commercial printing.

Beautiful But Simple Building

The Trojan Press building is beautiful in its simplicity of design. It was constructed of steel re-inforced concrete pumice block, steel window sash, summerbell archtruss roof, with Arizona flagstone trim on the front exterior.

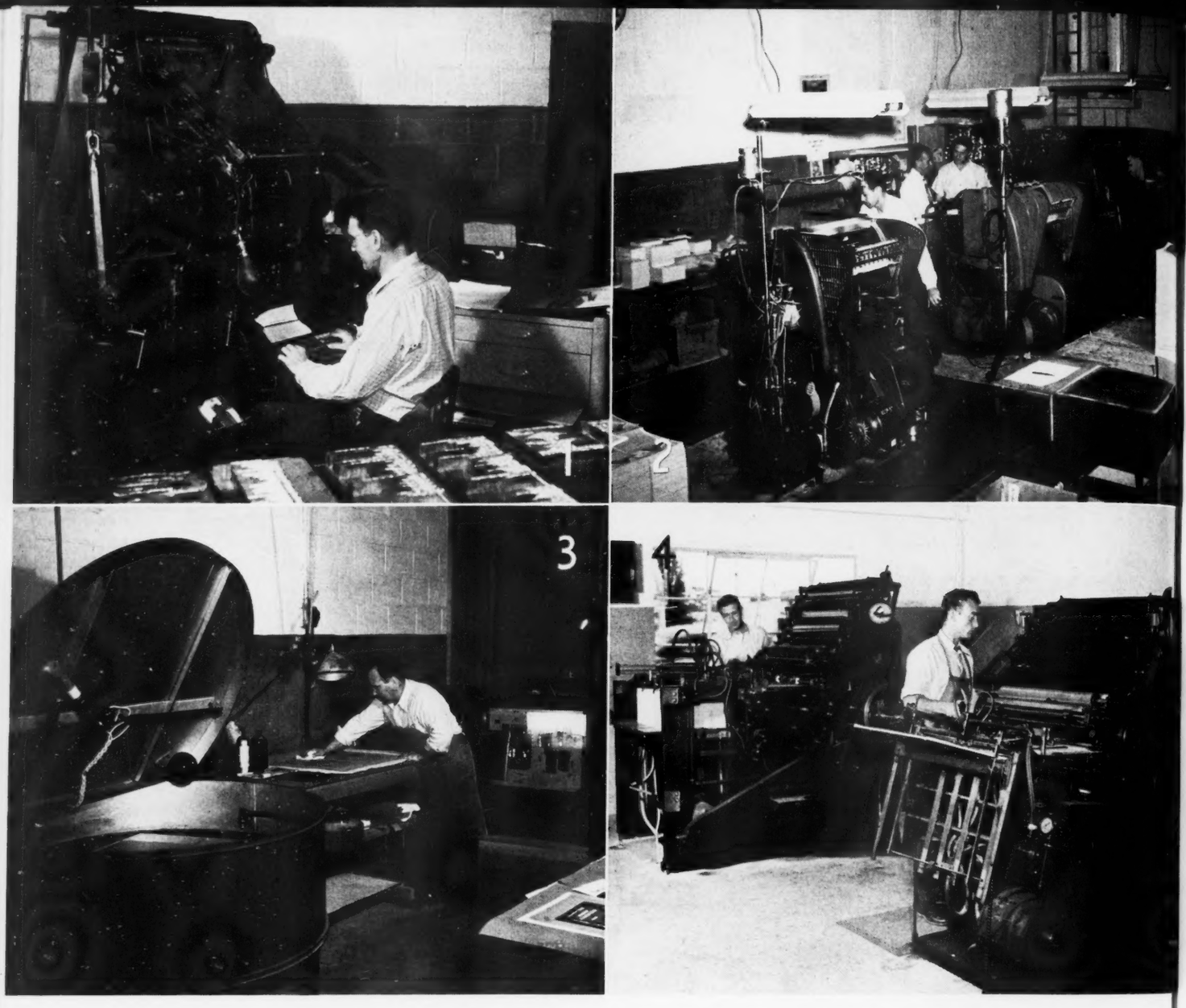
The building is a two-story affair with 49 ft. frontage by 95 ft. 5 in. depth. The second story, however, extends backwardly 35 ft. It is rented to other businesses to help carry expenses. At some future date, it may be converted into offices for the Trojan Press. When that time arrives, offset camera equipment will be installed where the present business offices are located on the ground floor front.

Coordinated Combination

It is the opinion of company executives that Trojan Press now is a highly coordinated and compact combination plant in which maximum production at reasonable hour cost is obtained. The morale boost alone among the employees, due to working environment, is helping amortize the cost of the building.

Supervisory Facilities

In the workflow diagram, it will be noted that jobs are passed to the superintendent from point A in the business office to the plant superintendent at *3*. This arrangement calls for a little explanation. In many plants, the production is not of sufficient volume to engage the services of a full-time superintendent. Consequently, these executive duties devolve upon some man capable of administering production while devoting part time to craftsmanship. In the case of the Trojan Press, the duties of superintendent are combined with the Linotype operator. If the load on the Linotype becomes too heavy, Mr. Doye steps into



Mechanical Department Views in Plant of Trojan Press, Combination Letterpress-Offset Printers, Los Angeles.

1—Superintendent Kenneth Blackwell operates the Linotype. At his right is the markup table. In the rack are job tickets. Being swung at an angle, Mr. Blackwell is in position to watch plant operations. Magazines, mold liners, sorts, and the like are grouped as conveniently about him as the dump in the foreground. See accompanying workflow diagram for further explanation.

2—View in section of the letterpress press department. This picture was taken just after moving into the new plant—hence, it has not been fully arranged into the projected operational unit. Operating the Miehle Vertical at left is Victor J. Crosetti, one of the owners. The gentleman with the collar and tie (center) is Charles Doye, manager. He is talking to one of the pressmen.

3—Peep into offset platemaking department adjoining the offset pressroom. Floor space provides maximum room for all plate operations with no wasted room. A ventilating unit draws off acid fumes. Very few plate re-makes are necessary. This is because plant and atmospheric conditions are suitable even though not elaborated.

4—Since this photo was taken, the offset press equipment has been changed to two Big Chief 22 in. by 29 in. presses. The offset pressroom has been separated from the rest of the mechanical departments to provide control over temperature, humidity and dust. Where register color work is involved, the two presses are paired together to produce exact work and to meet customer deadlines.

the breach for a few hours. Mr. Doye is a competent machinist-operator, as well as part-owner of the plant.

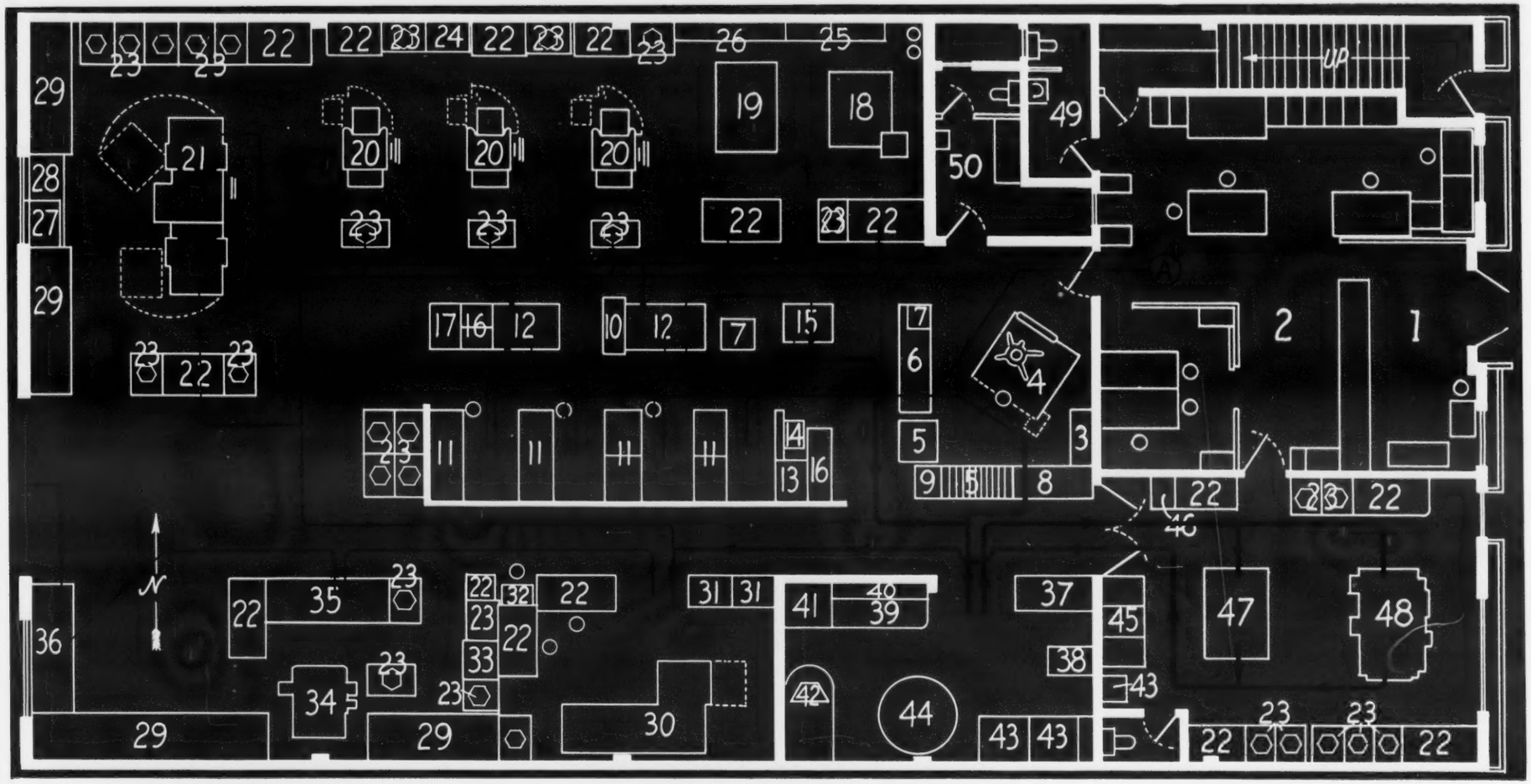
Combined with the machine composition equipment is a markup table *3* which is used for routing work through the plant. There are job ticket compartments in a rack on the wall above the markup table. These compartments hold tickets in different stages of completion until they are to be sent into the plant for production operations.

Since the floor space is available, the Linotype *4* has been placed at a 30 deg. angle with the wall. This provides use of the wall space for the markup cabinet *3*. The arrangement of the equipment about the Linotype is conducive to footstep conservation. Composition is dumped on bank *6* opposite the proof press *15*. Composition flows to worktops *11*. Then it goes to steel imposing tables *12*. Galley storage facilities are provided underneath the steel imposing tables and in the 100-galley cabinet *10*.

The connecting link between the composing room and the pressroom, of course, consists of the imposing tables *12*. In the accompanying workflow diagram is indicated the workflow to pressroom, bindery and shipping table.

Rolling Trucks

After the forms leave the imposing tables *12* and have been locked in presses *18*, *19*, *20* and *21*, the workflow takes on the form of mobile transportation. This is accomplished by means of what are called rolling trucks *23*. These trucks have been described previously in *Printing Equipment Engineer*. The rolling truck



Combination Letterpress-Offset Printing Plant—The Trojan Press, Los Angeles, Calif., does a general line of commercial printing. Floor area is approx. 49 ft. wide by 95 ft. 5 in. deep. Equipment is identified as follows:

1—Customer office entrance
2—Business office
3—Plant Superintendent's markup table
4—Linotype
5—Magazine rack
6—Machine dump and galley storage
7—Saw-trimmer
8—Bench
9—Monotabler equipment
10—100-galley cabinet
11—Type cabinet
12—Steel imposing table with galleys and furniture underneath
13—Strip material
14—Rotary mitering machine
15—Proof press
16—Form racks
17—Light table
18—12 in. by 18 in. Chandler & Price open press (that started Trojan history)
19—10 in. by 15 in. Kluge press
20—Miehle Vertical presses
21—Miehle Horizontal press
22—Table
23—Rolling table or stock truck
24—Markout board
25—Roller cabinet
26—Ink shelves
27—Markout board
28—Ink table and storage
29—Stock shelving
30—Baum 22 in. by 28 in. folder
31—Signature trucks
32—Stitcher
33—Drill
34—34 in. cutter
35—Cutting table
36—Shipping table

OFFSET DEPT.:

37—Layout table
38—Gumming table
39—Bench
40—Shelves
41—Rubdown table
42—Vacuum frame
43—Sinks
44—Plate whirler
45—Two-deck plate storage rack
46—Ink table and storage
47—17 in. by 22 in. Webendorfer (Replaced now by 22 in by 29 in. Big Chief)
48—22 in. by 29 in. Big Chief
49—Women's toilet
50—Men's toilet

system for handling unprinted and printed stock is a valuable time-saver—as well as a stock-saver. The truck prevents soilage of stock in handling, makes possible organization of work load for the next operation and there is no lost effort in hunting for a hydraulic truck unit to transport skids which must be used with them.

One of the important production items in connection with this particular layout is that the paper cutter *34* is placed centrally in relation to the stock storage, bindery and shipping operations.

Offset Department

The offset department is located in such manner that it is convenient of access to the business office and the plant superintendent. There is a two-deck plate rack at *45*. The lower deck is used for storage of larger plates while the upper deck is designed for small press plate storage. By isolating the offset presses away from the letterpress department, dust from spray guns is minimized, and humidity and temperature control is well maintained.

Lighting

Composing room illumination carries its own peculiar requirements on account of the nature of the work. It has been proved by production figures and by improved morale among the working force, that where two-tube 4 ft. fixtures have been replaced by the two-tube 5 ft. fixtures lighting problems have been allayed greatly. The fixtures are so suspended that the compositor does not have to contend with shadows. This reduces eye fatigue; thus the production factor does not drop sharply during the last 3 hrs. of the day because of eye strain. The 5 ft. fixtures are placed centrally over each type cabinet alley with the direction of the fixture at right angles to the length of the type cabinet. The same angle is employed over the imposing tables.

Lighting facilities in the pressroom consist of 48 in. two-tube fixtures. One tube is of the daylight variety and the other a natural color tube. Each fixture is hung the long way of the press. Each press is supplied with its own lighting fixture. The exception in this plant is that the Horizontal press is provided with two fixtures. In this instance, the rear fixture lines up at one end with the gripper line at the guides and extends backwardly over the feeder. The other tube is positioned over the delivery and is lined up with the long way of the sheet. Elevation of the fluorescent lighting fixtures over the presses is 84 in. from the floor.

There are many details which could be discussed in this article which facilitate production. We'll not talk about them because they will be evident to the plant executive. In scanning this layout, please note there is room for future expansion at which time the ground-floor business offices could be moved upstairs to make room for an offset camera, and darkroom.

Depreciation Difficulties —Avoid Them

By ROBERT R. GREER*

**Printing Engineer, Los Angeles, Calif.*

A DANGEROUS policy is being exercised by many plant owners. It works upon the theory of 10% depreciation per year for everything in their plants. They stoutly defend this policy when their procedure is questioned.

Upon one of the writer's assignments, this 10% depreciation policy became part of the conversation. This particular plant owner stated he was innocent of knowledge of anything other than the 10% procedure, *until* one day when his books were called by the Collector of Internal Revenue auditors. They discovered this 10% depreciation procedure had been employed.

The government tax men "set up their books" for them; assessed them for the incorrect amounts withheld plus 6% interest; the change of surtax bracket yielded further "back taxes" plus 6% interest. This owner said it was an expensive experience.

The fact that there are owners who have innocently made themselves liable by the 10% depreciation policy makes the writer desire to prepare this article from first hand observation. These experiences drive home the need for this important message to all owners of plants.

The writer wished to verify all the facts. Therefore, he contacted the main office of the Bureau of Internal Revenue in Los Angeles. It is headed by Mr. Riddle; but his lieutenant, Mr. Ward, answered the queries as drawn from bulletin F:

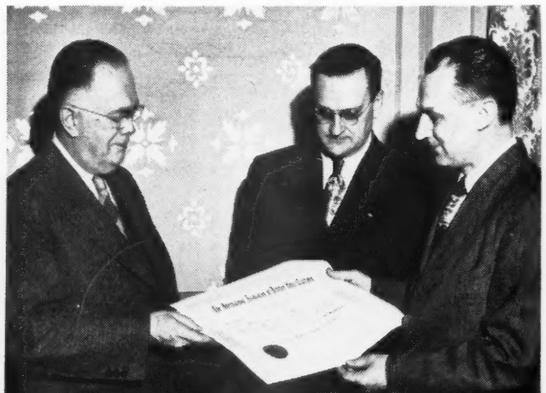
Depreciation Cycle:

Composing room	12 years	8⅓%
Hand type	6 years	16⅔%
Linotype equipment	17 years	6 %
Pressroom equipment	20 to 25 years	4 to 5%
Bindery equipment	15 years	6⅔%
Photographic equipment	10 years	10 %
Rotogravure equipment	17 years	6 %

Inquiry was made as to correcting any existing conditions if the plant owner innocently had not conformed to the above depreciation cycles. Mr. Ward stated that the only course of action was to file an amended return for the past three years. This intention of good faith would be a corrective—and stop further interest accumulation.

Further inquiry was made whether an owner allowing the matter to continue until discovered, what would be the result? Mr. Ward stated that the government would "set up his books for him" in a tone that had an ominous warning. It also meant that also they would pay all improper deductions plus 6% interest.

The hidden danger is: If the variation be large, due to much new equipment, the difference when computed into the returns for each of those years may throw the entire tax levy into higher surtax brackets. This difference is also collectible plus 6%. This is very serious business, and every plant owner should check at once, remembering that the tax department has put on thousands of new accountants to make an exhaustive checkup.



Erie, Pa., Group Forms Craftsmen's Club — William H. Yeager (left), newly elected President of the Erie Club of Printing House Craftsmen, is shown receiving the club charter from International Treasurer Edward T. Samuel, at Charter Night ceremonies held for the club recently in Erie, Pa. Pearl E. Oldt, Executive Secretary, International Assoc. of Printing House Craftsmen, who assisted with the arrangements, looks on. The newly formed group signed up 74 people as charter members.

International Second Vice President J. Homer Winkler presided as Chairman; others present from out of town were: International Technical Commission Chairman and President of the Cleveland Club (sponsors of the new group) Thomas P. Mahoney Fifth District Representative Alvin F. Friedrich; Frank Aikens, Harris-Seybold Co. Al Betts, Braden-Sutphin Printing Ink Co.; Earl Boner (Cleveland Club Treasurer) Chandler & Price Co.; D. W. Stock, Manager, Lawrence Electrotype Co.; Lester Strom Cleveland Manager, Sam'l Bingham's Son Mfg. Co., and George Wise, Cleveland Club' 1st Vice Pres., and Superintendent, Dugan-Millis, Inc.

Plant Production Equipment in Action

ONE hundred sixty-three firms and organizations thus far have contracted for space to exhibit their products and services at the forthcoming Sixth Educational Graphic Arts Exposition at the International Amphitheatre, Chicago, September 11 through 23. Total number of exhibitors will reach 190, so the management announces, utilizing 3 A. of space on one floor.

Most exhibits will be in action, visualizing various methods of composition and of placing ink on paper besides operations in book manufacturing. To demonstrate their machinery and other equipment under conditions that approximate shop operations some of the manufacturers are making arrangements with Chicago letterpress, offset and gravure printers and platemakers to transfer actual jobs and skilled production personnel to provide realistic action. Thus the tens of thousands of spectators will see the newest developments in action, and will have opportunity to talk to inventors, mechanical engineers and production consultants.

Composing room exhibits will include latest improvements in standard equipment in addition to new devices designed to increase production and lower costs. Alternative methods of composition requiring photography will also be demonstrated.

Cameras and darkroom devices for use in lithographic, gravure and photoengraving establishments, besides equipment used in manufacturing rubber and plastic printing plates, will be among the exhibits in action. Newly developed chemicals will also be shown and demonstrated.

Pressroom equipment which spectators will see in action will include fast automatically-fed job presses and larger models used for letterpress, offset and gravure printing, including multi-color presses. Thus spectators will be enabled to make on-the-spot comparisons of relative values of placing ink on various kinds of paper by the different processes.

PNPA-NJPA Mechanical Conference

IN excess of 400 production, mechanical and management executives attended the second joint newspaper mechanical conference sponsored by Pennsylvania and New Jersey publishers' associations. The conference was held in Atlantic City, Friday and Saturday, April 14 and 15 at Claridge Hotel. General Manager Theodore A. Serrill of PNPA officiated as conference director. Program events were conducted smoothly because of excellent management.

Live Exhibits

A number of manufacturer and supplier companies maintained live exhibits. The exhibits were in charge of Donnell P. Shortell, Mechanical Supt. of the Asbury Park (N. J.) *Press* and also President of NJPA Mechanical Dept.; Geo. T. Wegemer, Mechanical Supt., of the St. Marys (Pa.) *Press*; and Nicholas M. Fellman, Mechanical Supt. of the Chester (Pa.) *Times*. Among those exhibiting were American Type Founders Co., Bingham Bros. Co., Chemco Photoproducts Co., Fairchild Camera and Instrument Co., Godfrey Roller Co. and C. Walker Jones Co. jointly exhibited The Moreland Corp.'s roller products; Axel Holmstrom, Imperial Type Metal Co., Linotype Parts Co., Matrix Contrast Corp., Nolan Corporation, Stereotex Machinery Co., Stoessel Machine Mfg. Co., Inc.; Tingue, Brown & Co.; Western Newspaper Union, and Vulcan Proofing Co.

Conference Sessions

Paul V. Driscoll, Mechanical Supt., Connellsville (Pa.) *Courier* and chairman of the PNPA Mechanical Committee, opened the meeting on Friday morning. Brief addresses of welcome were given by R. C. Crane, Publisher of the Elizabeth (N. J.) *Daily Journal* and by Robert S. Bates, PNPA President and co-publisher of the small-city Meadville (Pa.) *Tribune-Republican*.

Photoengraving

The Friday morning session was devoted to Photography and Photoengraving, with J. R. Cubbison, Mechanical Supt. of the Sharon (Pa.) *Herald* serving as chairman, and R. Wayne Schrott, General Mgr. of the Conemaugh Engraving Co., Johnstown, Pa., as Co-chairman.

A high contrast ratio can be achieved by the Kemart process, Kenneth W. Martin, of the Harold M. Pitman Co., told the delegates. Mr. Martin said the process overcomes some of the limitations of the halftone screen. Kemart artist material, he added, is excellent for color work and when used in retouching photographs for ads allows their use as a replacement for wash drawings.

The advantages of contact screens in the newspaper field were cited by Harold Potts, of Eastman Kodak Co. In listing practical advantages claimed for magenta contact screens, Mr. Potts said negative quality is equal to or superior to that of crossline screens, operation much less complete than that of the glass screen, hence more easily learned, and contrast control easier, besides covering a wide range.

Magnesium was termed more suitable for newspaper engraving than zinc by Joseph H. Zerbey, III, Asst. General Mgr. of the Pottsville (Pa.) *Republican*. Mr. Zerbey said its advantages "more than compensate for the higher cost of the basic metal." Among the advantages mentioned were its weight, making handling easier; its more rapid etching—twice as fast as zinc; sharp, clean cuts needing a minimum of routing; hardness, eliminating necessity of makeovers if dropped; slower deterioration; and savings on acid.

Participating in a panel discussion winding up Friday morning's session were Charles K. Arnold, of the Washington, (Pa.) *Observer* and *Reporter*; Philip Sciotti, of the Lebanon (Pa.) *Daily News*; Hans Kraatz, jr., of the Altoona (Pa.) *Mirror*, and Earl D. Karr, of the Elwood City (Pa.) *Ledger*.

Mr. Arnold, speaking on cooperation between photography and engraving departments, urged inter-departmental education of each other's problems. "Let the engraver tell the photographer the type of print he wants to work from in regard to such things as contrast, finish, detail and brightness range," he suggested.

Mr. Sciotti said that better engraving depends upon good photographic prints. "You need brilliant contrast, separation of tones, proper retouching, avoidance of flat flash and the use of normal screen distance," he advised.

Mr. Kraatz told of his experiences in Germany in starting the edition of Stars and Stripes there during the recent war. He discussed engraving methods used throughout Germany.

Mr. Karr spoke informally of his one-man job from photographer through engraver at the Elwood City *Ledger* plant.

Mr. Schrott, manager of the plant operated by the Johnstown (Pa.) newspapers, conducted a discussion period after the panel was heard. Mr. Sciotti said the Lebanon *Daily News* had tried experiments with magnesium, but had not been satisfied with the results. The Pottsville contingent countered there was no difficulty in that plant, and they didn't even have a routing machine. Jack Kelt, of Mallinckrodt Chemical Co., St. Louis, said, that despite the fact vertical etching is more popular among newspapers, the horizontal method brings better quality. Mr. Cubbison warned that particular care should be taken in the use of ammonium dichromate in the engraving process.

Pressroom

A pressroom session was held in the afternoon. Ralph C. Crammer, Business Mgr. of the Williamsport (Pa.) *Grit*, was chairman of this session, with Rudolph Kuhner, *Sharon Herald* Pressroom supt., as Co-chairman.

Dr. Gerard Larocque, a newsprint specialist on the staff of the New York *Daily News*, speaking on *Better Printing*

from Newsprint, treated the aspects of color, transparency, smoothness and ink absorption and the effect of the tariff on quality. He suggested adding blue dyestuff in small amounts to kill the brownish tone of some newsprint, as well as its transparency.

"The best printing can be obtained upon a sheet which is both well formed and sufficiently smooth," he said. "Mills should be kept regularly informed as to the printing quality of their paper."

Dr. Larocque deplored the fact that the grade of paper remains substantially the same as it was in the horse and buggy days. He said changes in the law to permit changes in the content of newsprint should be an important objective of publishers.

Increasing use of colored news inks and more careful control of the ink maker over the properties of his ingredients were stressed by A. C. Zettlemeyer, Research Director of the National Printing Ink Research Institute at Lehigh University, Bethlehem, Pa. "Colored inks will cost more than black inks," he said, "but the percent of the total cost of the printed page will still be small."

Care and Maintenance of Rollers was the topic of Robert R. Pollock of the Godfrey Roller Co. He traced the development of various types of rollers in the past 30 years. "We as rollers makers recommend that $\frac{1}{8}$ in. swell is the limit before re-

(*Continued on Page 73*)

Mechanical Executives and Supplier Representatives Attending Joint PNPA-NJPA Atlantic City, N. J., Conference, April 14 and 15.

1.—W. J. Meier, E. W. Blatchford Co.; Millard L. Friday, Sales Manager, E W. Blatchford Co.; John T. Arnold, Mechanical Supt.; Home News Pub. Co., New Brunswick, N. J.; Chas. F. Smith, Sales Representative, Lanston Monotype Machine Co.

2.—N. DeWitt Ray, Co-publisher Indiana (Pa.) *Evening Gazette;* Mrs. Robert Bates; Meadville, Pa.; J. P. Cubbison, Mechanical Supt., Sharon (Pa.) *Herald;* Theodore A. Serrill, Manager, Pennsylvania Newspaper Publishers' Assoc., and Director PNPA-NJPA Mechanical Conference.

3.—Wm. Otter, Vice President, Imperial Type Metal Co.; Herb G. Taylor, Production Mgr., Bethlehem (Pa.) *Globe Times;* Robert R. Pollock, Godfrey Roller Co.; Harlan Rowe, Mechanical Supt., Sayre (Pa.) *Evening Times*.

4.—Donnell F. Shortell, Composing Room Foreman, Asbury Park, (N. J.) *Press;* R. W. Dickerson, Newspaper Plant Engineer, Cleveland; Earl Harlan, Production Mgr., Bradford Publishers Inc., Bradford, Pa.; Edgar Mills, President, Eastern Newspaper Supply, Inc.

5.—Ralph R. Cranmer, Business Mgr., Williamsport (Pa.) *Grit;* George T. Wegemer, Mechanical Supt., St. Marys (Pa.) *Press;* Dr. A. C. Zettlemoyer, Research Director, National Printing Ink Research Institute, Bethlehem, Pa.; Bill Coddington, Composing Room Supt., Youngstown (O.) *Vindicator*.

Housekeeping In the Pressroom

By HARRY F. SHAUGHNESSY
Pressroom Superintendent
and
JAMES A. STILES
Personnel Director Williams Press, Inc., Albany, N. Y.

(National Safety Council News Letter, Printing and Publishing Section, March 1950.)

EXPERIENCE indicates that the most vulnerable spot for accidents to occur in a printing plant is the pressroom. For this reason, if for no other, anything that can be done to reduce the possibility and thus the frequency of accidents in this department should be tackled with a vengeance by the supervision and management of the room as well as by the rank-and-file employees.

It has been proved by long years of experience that the poor condition of this room, insofar as cleanliness, order, and arrangement of materials and equipment are concerned, contributes heavily to the causes of these accidents. It is, therefore, important that housekeeping be given the proper amount of attention in our campaigns to reduce or eliminate press room accidents. It is with this thought that the following suggestions are offered.

Pressroom Especially

Provide a paper disposal container and a tool chest for each press.

Provide adequate means of disposal for ink cans and rubbish, either box trucks or a chute to the outside of the building where this material can be loaded and taken to the dump.

Erect metal roller racks at all presses.

To cut waste, centrally locate cabinets or bins to store draw sheets and hangers cut to size and flat. Centrally locate a patch up table and near it place a small cabinet for patch up paper cut to appropriate size.

Place racks close to presses to store delivery boards, legs, skids for waste stock to be used in running up color and also wads to run out feeder.

Upon completion of jobs return all unused ink to stores.

Wash-up fluids should be stored in drums and when issued placed in leak- and fireproof cans only.

Centrally locate racks for both live and dead plates—dispose of the latter after bindery completes the job.

General Housekeeping

Have a plan for regular sweeping of floors to reduce slipping and falling.

For better light, clean windows periodically.

Proper lighting is essential, particularly in dark areas that tend to accumulate debris. Also, paint the corners with light color.

Provide an adequate number of safety cans in strategic places for disposal of solution-soaked rags.

If soft drinks are permitted on the premises, boxes or cases should be provided for empty bottles.

Post signs to designate use of disposal devices.

Replace all guards and other protective devices following completion of repairs.

Pile the finished product properly, to prevent loads from being spilled.

Remove all discarded equipment to a storage or disposal area.

Provide adequate space and use proper method for storing skids or pallets and end boards.

Promptly clean all oil spots from floors or steps and apply a non-skid material.

Mark aisles and keep them free of material.

Store trucks in the designated area.

Keep each safety device or bar in its proper place and appropriately identified.

Locate fire extinguishers conveniently and identify them properly as to the type of fire on which they are to be used . . . Inspect them periodically.

Centrally locate cabinets for storage of furniture, quoins, etc.

Keep containers for soap, paper towels, and toilet paper in working order.

Clean light bulbs regularly.

Color coding of machines is also an aid in emphasizing points of danger and in improving the general appearance of the room.

Orderly and efficient flow of work into and from the room lessens the opportunity for debris to collect.

Matrix Contrast Moves

Matrix Contrast Corp. has announced that the New York office and service branch, formerly located in the Empire State Bldg. and at 29 W. 36th St. respectively, are now both located at 154 W. 14th St., New York 11, N. Y.

Sta-Hi Acquires Collator

Sta-Hi Corporation of Whittier, Calif., has acquired exclusive manufacturing and sales rights to the Dager Maniform and Inter-Leaf Automatic Collators, it is announced by Craig C. Baker, Sta-Hi President.

A licensing agreement was recently negotiated between Sta-Hi Corporation and Albert Dager of Los Angeles, inventor of the automatic sheet gathering machinery which has been the subject of several articles appearing in *Printing Equipment Engineer*.

Sta-Hi's engineering department is now engaged in the necessary planning and development work anticipating start of actual production within the next few months. Sta-Hi Corporation will make a general announcement to the trade when the company is ready with its manufacturing and sales program, according to Mr. Baker. Sta-Hi Corporation is the only firm licensed to manufacture or sell the Dager Collators, he points out.

Anchor Dealer

Edward S. Jasser, Vice President in Charge of Sales for Anchor Chemical Co., has announced the appointment of the Franklin Printers Supply Co., 608 Cherry St., Philadelphia, as dealer.

WARNING!

A rumor has been brought to the attention of PRINTING EQUIPMENT *Engineer*. At the time of soliciting advertising, a printing trade publication is leaving the impression with printing equipment manufacturers that it is the "official publication" for the Sixth Educational Graphic Arts Exposition to be held in Chicago in September.

We are authorized to state by the Exposition Management that none of the printing trade publications are "official publications"—in fact, *there is no official publication.*

PRINTING EQUIPMENT *Engineer*

Texas Ink Plant—The illustration below is an artist's drawing of the ink plant being opened by Geo. H. Morrill Co., Div. of Sun Chemical Corp., in Fort Worth, Tex. The 12,000 sq. ft. will be used for offices, laboratories, production units, and storage of raw materials and finished product. Inset pictures Ralph C. Persons, General Manager of the company, and Sid Rochelle, Morrill's Ft. Worth District Manager, inspecting plans for the new plant.

Sta-Hi Corporation in New Home

STA-HI Corporation is now in full production in its new and modern plant located in Whittier, Calif., in the Greater Los Angeles industrial area. Provision has been made for fast and efficient manufacture of the Sta-Hi line of newspaper stereotype and composing room machinery. With more than twice the space available than at the firm's former location in downtown Los Angeles, material handling and processing has been simplified and all production operations are now geared toward assembly line methods.

Preliminary work is done in sheet metal and welding departments where frames for Master Formers, MasteRouters, Even-Temp Mat Dryers, Finaltrims and Power Lift Form Files are built. Component parts, except for such items as electric motors and controls and steel castings, are all built in the machine tool department where the latest in lathes, milling machines, drill presses and other equipment makes possible the close tolerances necessary for precision operation of Sta-Hi products.

A feature of the new plant is expanded quarters for the Sta-Hi engineering and development department where new machinery and methods for faster, better and more economical newspaper production are being conceived. One of these new developments will be ready for announcement to the trade in the very near future, it is announced.

In addition to its well known line of newspaper production machinery, Sta-Hi is also entering the commercial printing field with acquisition of manufacturing and sales rights to the Dager Automatic Collating Machine, announced elsewhere in this issue of *Printing Equipment Engineer*. A portion of the new plant facilities will be devoted to manufacture of this new equipment, expected to start within the next several months.

Even with expanded factory facilities, two Sta-Hi products will continue to be manufactured elsewhere: Sta-Hi Premier Rotary Shavers at the plant of Premier Gear & Machine Works in Portland, Ore., and Sta-Hi Vacuum Flat Casting Boxes by the J. M. Gauntlett Co., Inc., Seattle, Wash. Sta-Hi has been closely associated with both these companies for a number of years.

Sta-Hi Corporation was organized in Portland, Ore., in 1928, at which time the first Sta-Hi Vacuum Dry Mat Former was developed and manufactured to help solve the problems connected with the introduction in this country of dry mats. The factory was later located in Seattle, Wash., and in 1933 a plant was established in Los Angeles, where operations were conducted until the recent move, made necessary because further expansion at the Los Angeles location was found impossible with rapid industrial growth of the city.

The officers are: Craig C. Baker, President, identified for some years with improvements in newspaper machinery and processes; Allen Royce, Vice President and Treasurer; O. T. Cochran, Secretary; Richard W. Turner, Asst. to the President and in charge of production, and Charles Burdett, Factory Supt. All have seen many years of service with the organization.

Views in New Plant of Sta-Hi Corporation, Whittier, Calif.

Sta-Hi Corporation is now housed in its modern new home at Whittier, Calif., in the Los Angeles industrial area. The firm manufactures newspaper stereotype and composing room equipment. Within next several months, the firm will start manufacture of the Dager Automatic Collating Machine for the commercial printing industry. Twice the floor space over the former Los Angeles quarters is available in the new building.

1.—General view of machine assembly section. In left foreground Master Stereotype Mat Formers are being assembled. At right are MasterRouter curved plate routers in various stages of manufacture.

2.—A view in the engineering department.

3.—Machine tooling department.

4.—A general view in the new Sta-Hi plant.

5.—Metal working department.

6.—Working with hot stuff: View in welding and grinding department.

7.—Sta-Hi's sales and service office.

8.—Careful attention is paid to the painting operations in the painting department.

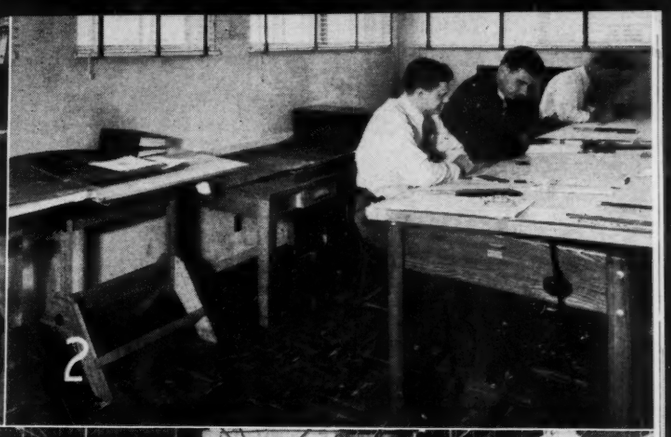
Solvent Use Precautions

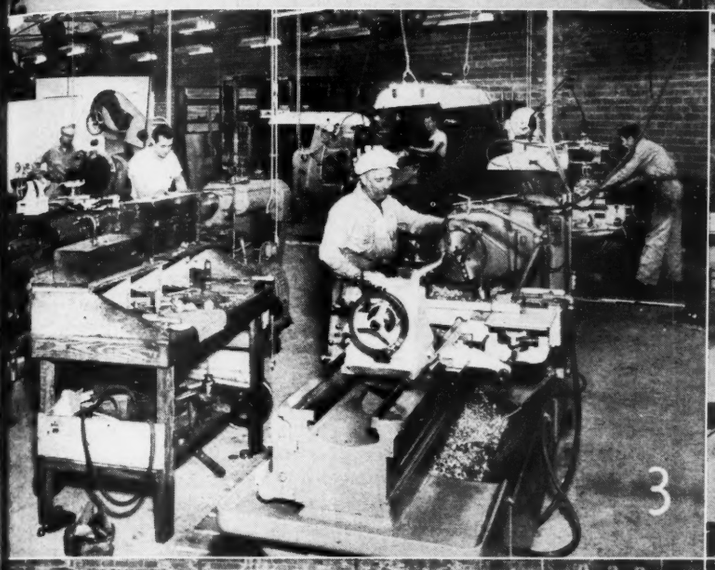
Because solvent vapors are heavier than air, they have a tendency to collect at floor level, in the bottom of tanks, pits and other low places. To avoid exposure to excessive concentrations of vapor in such places, Safety Research Institute, Inc., has issued precautions to be followed to avoid serious illness.

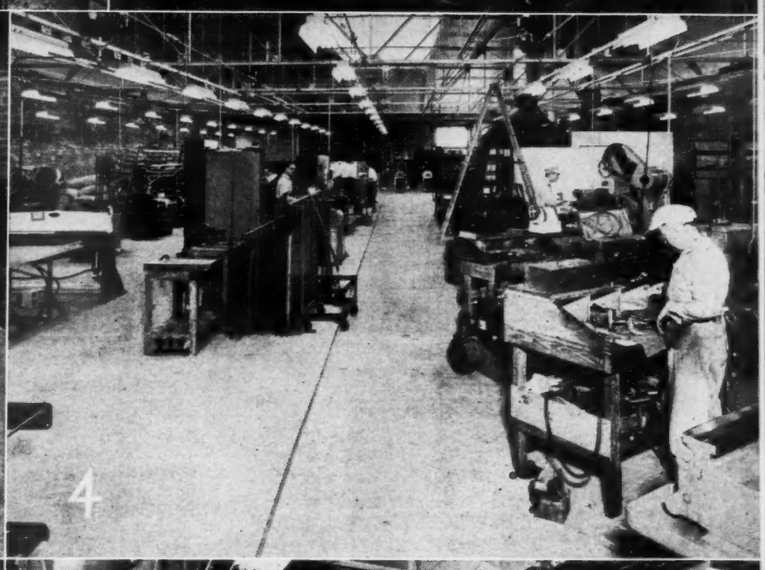
Anyone assigned to work with solvent in an enclosed space, such as a tank or pit, should wear a supplied-air or self-contained oxygen respirator. In addition, a life-line should be tied around his waist with the other end in the hands of a watcher who stands outside the work area. The man should never remove the respirator while working. In case of fatigue, he should leave the work area and go into fresh air.

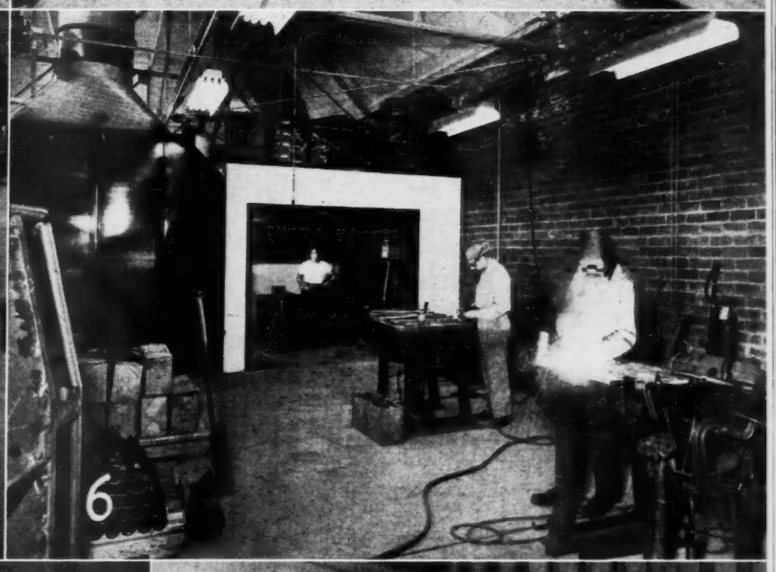
When floors, room corners, the underside of equipment, etc., are cleaned with solvent, as much ventilation as possible should be obtained by opening all windows, doors, etc. Workers who use solvent for occasional brief cleaning jobs should be instructed not to bend over the work and to avoid inhaling the solvent vapors as much as possible.

Early symptoms of vapor poisoning include nausea, dizziness, headache and fatigue. If they occur, the man should cease work immediately and go out into fresh air.









Northwest Mechanical Conference Officers—(left to right) Vernon G. Eck, Dunwody Industrial Institute, First Vice President; Charles McGuire, Minneapolis *Star* and *Tribune*; Herman H. Ridder, Publisher, St. Paul *Dispatch* and *Pioneer Press*; Joseph Cory, Conference President; M. M. Oppegard, Grand Forks (N.D.) *Herald* who functioned as Master of Ceremonies; Daniel Ridder, Asst. to Herman H. Ridder; John Breen, Duluth *Herald* and *News-Tribune;* Secretary-Treasurer Ralph Carson, of Dunwody Industrial Institute.

More Efficient Operation Stressed at Northwest Meet

By HORACE ANNIS

BETTER equipment and more efficient operation to meet the problem of decreasing revenue and mounting costs was stressed at the Seventh Annual Northwest Mechanical conference held in Hotel St. Paul, at St. Paul, Minn., March 11, 12 and 13. A total of 394 newspaper and commercial executives attended.

The equipment display was arranged by Roy Gydesen of Sam'l Bingham's Son Mfg. Co. Exhibitors included Richardson-Sovde Co., Harold M. Pittman Co., Consolidated Photoengravers & Lithographers Equipment Co., Addressograph-Multigraph Sales Agency, H. B. Rouse & Co., Linotype Parts Co., Chemco Photoproducts Co., Hamilton Mfg. Co., Perfection Type, Inc., and The Monomelt Co., Inc.

The first general assembly Sunday morning, March 12, was presided over by Joseph J. Cory, Conference President. Mr. Cory is Chief Machinist at the St. Paul *Dispatch* and *Pioneer Press*. After the address of welcome by Mayor Edward Delaney of St. Paul, the assembly adjourned into Photoengravers' and Linecasting Machinist clinics.

Production and Mechanical Executives are invited to submit to the editor informally in a letter devices which have helped production in their plants.

Machinists' Clinic

CO-CHAIRMEN of the Linecasting Machinist clinic were William Gordon, Bruce Publishing Co., St. Paul, and William Sutton, Minneapolis *Tribune*, with Mr. Gordon presiding.

First educational feature was a showing of slides on *Improvements and New Features of the Linotype Machine*, by E. R. Leach, Chicago branch manager of Mergenthaler Linotype Co., with Bruno Borck, Mergenthaler, Chicago, assisting.

Next demonstration and discussion was on *New Mechanical Features and Improvements on the Intertype*, with Walter Severin, Chicago, operating the lantern and Bob Ritten, Minneapolis, also of Intertype, discussing them.

Clay Wellman, Sales Mgr., Ludlow Typograph Co., Chicago, discussed the improvements which have been made in Ludlow and Elrod equipments.

At the conclusion of the talks Mr. Gordon turned the question and answer phase of the clinic over to Wm. J. Easton, Chief Machinist, the Milwaukee *Journal*. Mr. Easton acted as the chairman of the Board of Experts which included Bob Deater, Mergenthaler Linotype Co.; Walter Severin, Intertype Corporation, Clay Wellman and John E. Kirley of Ludlow Typograph Co.

Among questions and answers were the following:

Q. What causes the slurring side damage to the letter characters on the left side of the line when the rest of the line is OK?

A. Check the first elevator rise for align ment, worn locking studs, worn pot return cam show. Check advance of mold disk to see if it is tight enough or too tight. It should be set between 0.003 in. and 0.005 in. Check first elevator connecting link spring, vise-closing wedge and mold slide support screw.

Q. What is the required tension for justification and vise-closing lever springs?

A. The justification lever tension should be 30 to 35 lbs. The vise-closing lever 20 to 25 lbs. Check with 75 lb. spring scale hooked at end of lever. Adjust tension to the point where rollers leave the cam.

Q. Why don't the vise jaws close fully coming in at 30 picas on a quadder?

A. Might be any one of several causes or a combination of causes. Wash the vise jaw tracks so the jaws will snap together. The barrel might work loose; vent on air cylinder might be filled up; there might be a metal chip in the block; one of the five screws holding the duplex rail on the first elevator front jaw may be loose; control rod lever shaft screws may be bent or missing. When ordering a new vise jaw, the old block should be returned to the factory so the jaw may be fitted accurately to the block.

Q. What causes a matrix to fall out of the first elevator jaws when recasting on

This emblem was designed for the Northwest Mechanical Conference by Al Rosene, Production Manager, St. Paul (Minn.) *Dispatch and Pioneer Press.*

the duplex rail while using the automatic quadder?

A. The line stop is too loose; check tension of duplex rail springs in first elevator head; wear on the back jaw lip; poor condition of matrices may also be a factor; when doing a lot of recasting put an em quad matrix on end of line; check retaining pawls.

Q. If Elrod pot channel is choked with metal, how can it be cleared?

A. It can sometimes be cleared by putting Ludlow Cleaning Compound in the pot and leaving it overnight; then push the metal back. (One observation was that it can't be removed without drilling).

Q. What makes a short matrix line twist in the assembling elevator before passing into the delivery channel when using a quadder?

A. Friction rails at the back and front elevator do not have same friction. Test with red lead on matrix to see where the friction or lack of it is taking place.

There was considerable discussion at this point on the proper setting of Ludlow vise jaws. Mr. Cory contended the setting recommended by the manufacturer is too close; with a tight line coming in all day they will not stand up. While the theory of the recommended adjustment is that it will clean metal off, it actually jeopardizes both jaw and matrix.

Q. On a Model 5 Linotype, when setting 18 picas or more, there is an identation of 1 to 5 pts. on the right side but this disappears on shorter slugs. What causes this?

A. A binding of mold and vise jaws on the forward movement of the mold disk; vise frame out of alignment; banking screw set too high on first elevator; raise first elevator up with thin space on each end and check for equal bind; horizontal alignment with mold might be off. Difference in number of spacebands might be a factor since there is a variation when the same pressure is used on 12 to 15 spacebands as is used on two or three.

Q. What makes some slugs saw short and bleed into the type when using a Mohr Lino-Saw?

A. The spring on the upper knife block liner may not hold the slug down; the mold cooling blower may be blowing chips between the knives, and the slug may be riding on the trimmings; adjust the plate on the lower liner to 0.002 in. below slug (when leaving mold) so the slug will push trimmings ahead.

Q. What makes Mohr Lino-Saw cut properly from 15 to 30 picas but be off on lengths under 15 picas?

A. The threads for vise cap lead screw and vertical shaft now are ground for accuracy. The old ones were cut on a lathe. A replacement screw may correct the fault. The bushing on the bottom of the vertical shaft may be loose.

Q. Why is it that some descenders are being damaged while others are not in the same matrix line on a line-composing machine?

A. Long matrix lines may have enough support by the first elevator, while short ones do not. The mold cam eccentric might be set too late or the trouble might be in the matrices.

Photoengravers' Clinic

THE Photo Engraving clinic, held at the same time as the Line-casting Machinists clinic, was presided over by George Marsh of the St. Paul *Dispatch* and *Pioneer Press*, with Ebbie Jennison of the Minneapolis *Star* and *Tribune* as co-chairman.

First speaker was Ira Hoffman, Eastman Kodak Co., discussing *Kodagraph Autopositive Film*. This film, he said, is not really a Graphic Arts film, having been developed and designed for industrial uses such as blueprinting and map making, but it does have some graphic arts applications. The film has been on the market about two months.

The film is pre-exposed at the factory, he explained, and is not sensitive to ordinary light. Exposure to yellow light through an acetate sheet nullifies the exposure put on at the factory and it becomes sensitive.

By exposing to yellow light, one can get a negative from a negative. Re-exposure with white light (No. 2 foto-flood, about 1500 w. for a brief period) will give a positive from the negative. Starting from a halftone negative, exposure to yellow light permits the light to filter through between the black dots and bleach the autopositive film so that it gives a clear negative. Regardless of what combination of plates is desired, first exposure must be to the yellow light to nullify the exposure put on at the factory.

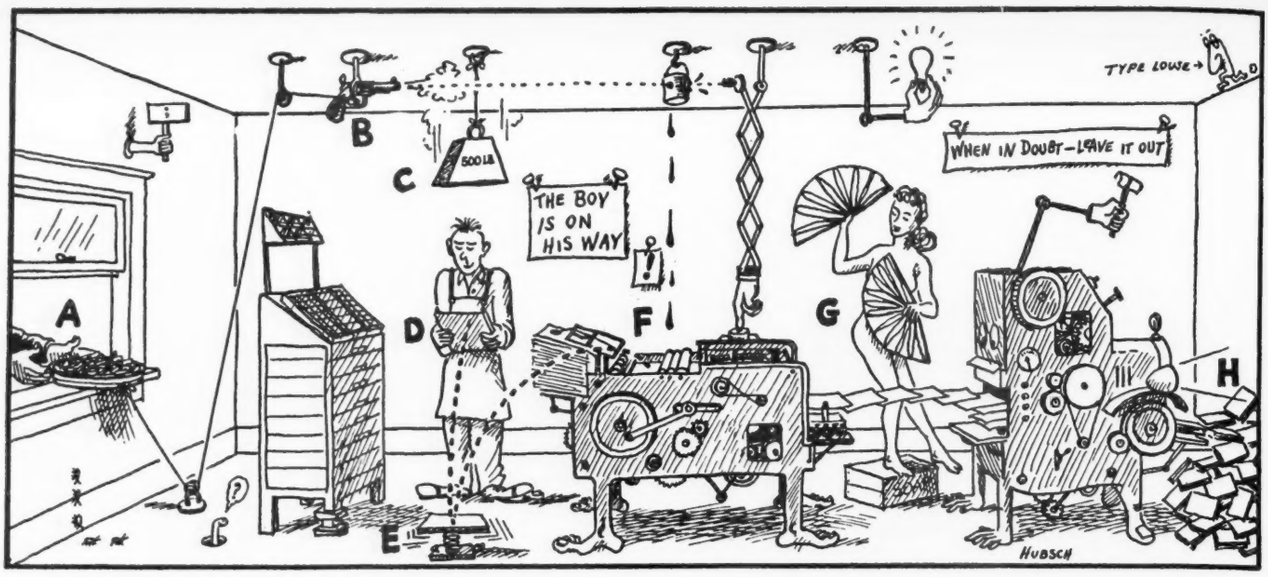
Graphic arts applications include ability to hold register since background tints and type can all be brought into one piece of film. Register marks may be photographed so that in plate combinations there can be no deviation in register.

Another feature of Kodagraph Autopositive film, he said, is that direct color shots can be made without the use of a prism.

Barney Skomars, Harold M. Pittman Co., next discussed *Control Mechanisms and Processes* and their proper evaluation in photoengraving. Proper control equipment, he said, can increase both production and quality. Labor costs being what they are, he emphasized that any equipment such as timers, clocks, automatic whirlers and thermometers which save labor, even in 5 min. units, will result in a considerable saving over a day or week. An important consideration is that automatic equipment can release the skilled workman for the next step in his job.

The control mechanisms which enable the skilled worker to do better work are even more important than the time-saving equipment. For instance, he said, technical skill in the production of a plate can not be exercised until the copy has

Lineup of Experts at Machinists' Clinic, Northwest Mechanical Conference—(left to right) Clay Wellman, Ludlow Typograph Co.; Joseph Cory, St. Paul *Dispatch* and *Pioneer Press;* Wm. J. Easton, Chief Machinist, Milwaukee *Journal;* E. R. Leach, Manager, Mergenthaler Linotype Co.'s Chicago Branch; Walter Seversin, Asst. Manager, Intertype Corporation's Chicago Branch; Chairman, William Gordon, Bruce Pub. Co., St. Paul; John E. Kirley, Ludlow Typograph Co.; Bob Deater, Mergenthaler Linotype Co.



Gadgets and Tricks of the Trade—An unusual program was featured at a recent meeting of the Club of Printing House Craftsmen of New York, Inc., entitled *Gadgets and Tricks of the Trade*. Presented by Herbert Ahrendt, Vice President of Ahrendt, Inc., and Bruno A. Menzer of the School for Printers' Apprentices, the program revolved around the inventive ingenuity of the printer who is attempting to make life easier for himself, increase his profit and to bolster production.

The theme was amplified by the adage *Sweat the Machine, Not the Man.*

Refinements which appear in the cartoon are explained as follows: "Mr. M. Quad, printing tycoon, devised this one-man print shop while on a diet of type wash and pi. Hungry hobo steals printer's pi (*A*) from window sill which pulls string firing gun (*B*) releasing weight (*C*) hitting compositor on head causing him accidentally to drop galley of type (*D*) on spring (*E*) flipping it onto automatic press (*F*). In the meantime, bullet from gun has started ink supply and pushed starter button on press. The printed sheets pass fan dancer (*G*) whose fast tempo dries sheets going into completely automatic bindery machine. Completed job (*H*) is ready for the shipping department."

been correctly evaluated. By use of a transmission type densiometer it is possible, Mr. Skomars pointed out, to read your copy after having set up a definite scale based on previous results, set the diaphragm scale control, press the switch on the light integrator and know that you are going to get the best results possible from the copy furnished.

Arc light fluctuations, not discernible to the human eye, may give a difference of + or — 30% in the actual light falling on the copyboard, the speaker said, and the only way this can be detected and corrected is with a light integrator which will measure the amount of light within 2 or 3%, thus eliminating errors due to light fluctuation. A voltage control could also be used, but this would be more expensive. In other words, he explained, it is possible to take the guesswork out of making a negative with control equipment.

Briefly discussing Kemart and Fluorographic processes, Mr. Skomars declared that Kemart does a better job, right in the camera, with four or five minutes more exposure, than can be accomplished by opaquing or machine tooling in hours of work. Kemart and Fluorographic, he said, have advantages in doing dropout work that cannot be duplicated by ordinary hand methods of the past.

Looking for New Position?

Opportunities exist in the medium and larger plants reached by *Printing Equipment Engineer*. Many of our production executive readers will respond to your Position Wanted Ad in the Classified Section of *Printing Equipment Engineer*. Rates on page 75.

Stereotype-Press Clinic

THE Stereotype, Press and Maintenance clinic was presided over by Ralph Krogstad, St. Paul *Dispatch* and *Pioneer Press*, with Lawrence Kameron of the same paper and Peter Seemon of the Minneapolis *Star* and *Tribune* as co-chairmen.

First speaker was Carl H. Borckardt of the Certified Dry Mat Co., who discussed *Press and Stereotype Problems*.

One of the chief troubles, he said, is that the front office will decide on rigid deadlines for ads and copy, then break the rule for the sake of a "good advertiser." For instance, he said, you might have an order to leave a page blank unless the advertiser had his copy in for that page before deadline time. But if you did leave that page blank you would get a terrific squawk.

Another problem, he pointed out, is either too much or too little copy too late. One composing foreman complained that his machines overset a full page of type that was never used, the speaker said, adding that it's much better to have too much type than too little.

The problem of lost mats and casts can be eliminated. Mr. Borckardt said, by sending mats to the stereo department in an envelope with mat and envelope bearing the same number. When the cast is made it is put in the envelope with the mat and is sent to the composing room.

Discussing the matter of color in newspapers, the speaker said: "You can't be too careful with color," adding that, "contrary to general belief, register marks aren't always accurate." His own practice in case of doubt, he said, is to pull a celluloid proof and punch new marks.

Color-Awakening Giant

Next speaker was Foster Kienholz of St. Paul, industrial color engineering field director, Color Research Institute of America. Mr. Kienholz, discussing *Color, The Awakening Giant*, said in part:

"Before one studies color in any way at all, he simply takes it for granted, but after one gets into it a little it becomes baffling, puzzling and complicated. A knowledge of color involves four sciences, not just one. It is true that without light (energy, physics) we would not perceive any color. It is equally true that without matter, pigment, to reflect light back to our eyes, we could not see color.

"Without our eyes (physiology) we certainly could not react to the reflected light waves and finally, without a brain we would not receive the sensation of light.

"Color in newspapers is still a novelty. Most any color gets more attention than just black and white, but you are entering an era where color will be more widely used. It will then require a knowledge of which colors to use to produce the results you want.

"The physicist can tell us about his color measuring device, the spectrophotometer. He can say it will identify millions of colors, and he is right. The

(*Continued on Page 66*)

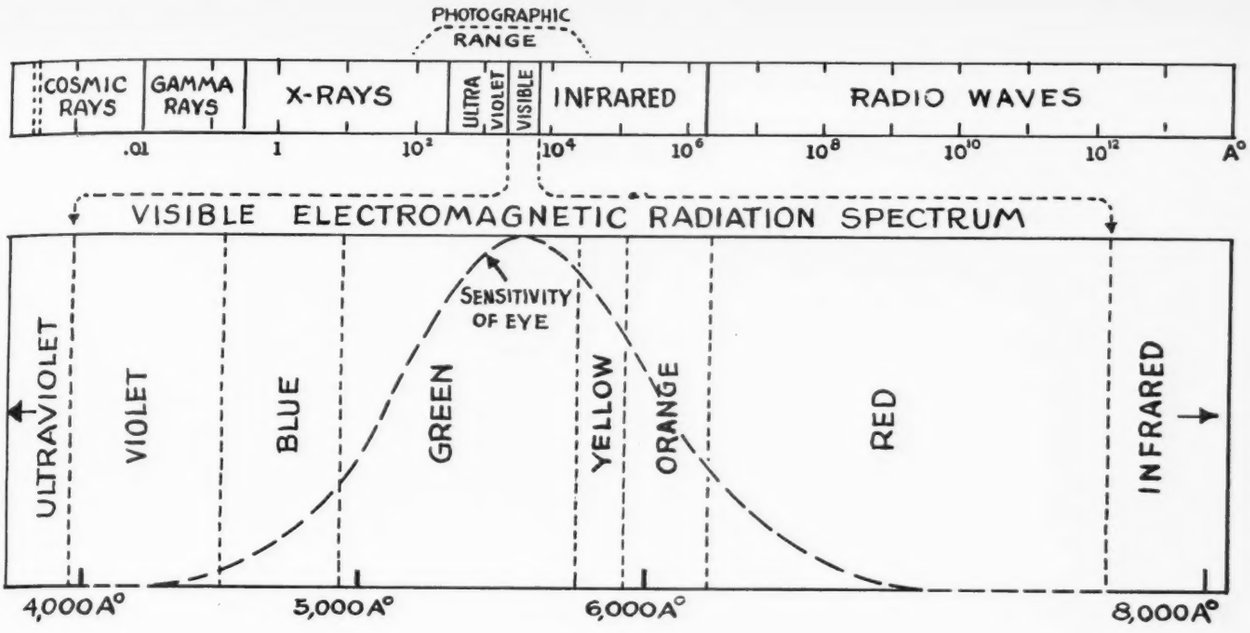


Fig. 6.

The ABC of OFFSET

For Letterpress Printers

By George Jos. Lenzer

V.—LIGHT.

OPTICS, is the science which treats of the properties of light, its genesis and propagation, the effects which it suffers and produces, and other phenomena closely associated with it, especially in connection with vision. The rays that enter the eye may have come directly from the object in straight lines through one medium, or they may reach the eye after many various reflections or refractions at surfaces separating different media.

The science of Optics is divided into three separate branches, all of which contribute their share of importance to photomechanical reproduction. The three branches are, Geometrical Optics, Physiological Optics, and Meteorological Optics. In the first branch, the properties of lenses, mirrors and prisms are deduced geometrically from the few fundamental principles; the second branch, includes the eye as an optical instrument, its anatomy in relation to its functioning as an organ of vision, the defects of eyesight, and the subjective effects of color; and the third branch treats of the natural phenomena, such as the twinkling of stars, the blue color of the sky and a great many other variations.

Theory of Light

Of general acceptance, is the theory that light is propagated as a wave action or radiation. The speed of light is constant for all radiations in a given medium and is approximately 186,000 miles per sec. in free air. When light enters a denser medium the waves are shortened, with the number of pulsations (waves per unit of time) remaining constant. Waves per unit of time are known as the frequency of the light vibrations.

Since the light wave is shortened when light transverses a denser medium and the frequency of the light vibrations remain constant, the speed of light is lessened.

Light is primarily and subjectively any effect on our sense of sight; secondarily and objectively, it is the changing conditions in the world about us which corresponds to, or produces this sensation.

Our discussion of light, so far, has its basis on the natural phenomenon, but, it is upon this basis that all subsequent discussion is predicated.

Artificial Light

It has been common practice for many years to rely upon Carbon arc lights for photographic illumination in copying for reproduction. Because the Carbon arc light is the most generally used, it is deemed advisable to briefly describe this form of illumination.

Carbon arc lights provide an intense white light, and are used primarily to reduce exposure time when exposing photomechanical films and plates. This light is obtained by striking an electrical arc between two white-flame-core carbons. The arc has a continuous spectrum suitable for use with Wet-plate sensitizers and with orthochromatic and panchromatic emulsions on dry-plates and films, as well as the sensitizers used in the production of printing press plates.

Some of these Carbon arc lights are frequently called 'High intensity arcs'. The positive carbon is about $\frac{5}{8}$ in. in diameter and has an exceedingly hard shell; while the core is half that diameter, is softer and carries a large percentage of cerium fluoride. The negative carbon is smaller in diameter, but also consists of a hard shell and a softer core.

The temperature of the arc probably exceeds 5000° deg. C. In this type of light, a contributing factor in its intensity is vapor, which is evolved in a small crater in the positive electrode. The very high temperature and intense light emission are due to the concentration of several kilowatts of energy in about one cubic centimeter of vapor, the brightness of which is rated at 690 candles per sq. mm.

Caution: Because of the high intensity of the light, and its saturation of ultra-

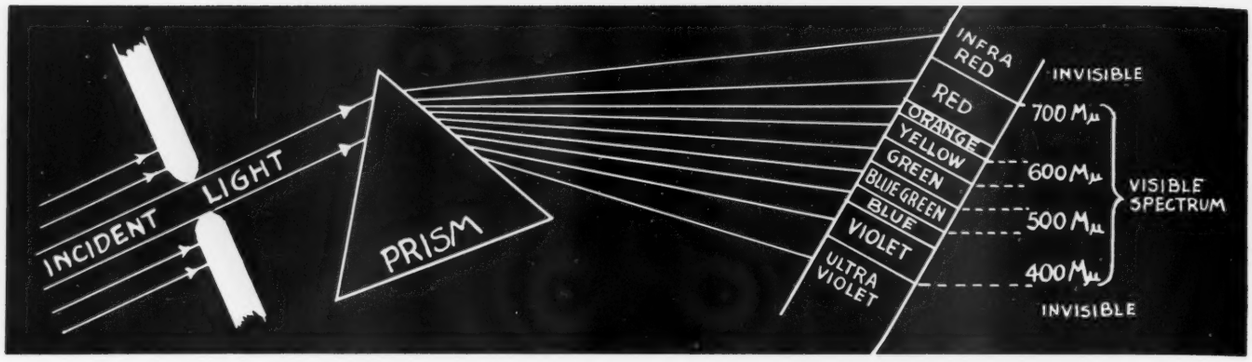


Fig. 7a.

violet rays, *never* look directly into the arc. Looking directly into the arc is injurious to the eyes, and consequently can cause blindness. If it is necessary to inspect the light from time to time, the best way is to view the light by reflection. For this purpose it is advisable to use a blackened photographic glass plate. In practice, stand with the back to the light source, then by looking into the mirror-like glass plate, the image of the arc is discernible, without suffering the effects of the light's harmful rays.

Other Kinds of Light

Scientific development of the dry plate emulsions and sensitizers, to meet various conditions of light and lighting effects has resulted in an entirely different conception of traditional lighting. With these modern coatings it is possible to make photographic copies and reproductions at high speeds with specially designed and corrected lights of a compensating nature, to suit the specific photographic plate or film emulsion.

To mention a few of these newer developments, there is the Eastman Fluorescent Process, which utilizes a high-intensity-core arc light in union with special filters, which permit passage of, or the transmission of the ultraviolet rays, which in turn cause special color pigments to fluoresce. It is the fluorescence of the pigment which acts upon the emulsion, and effects a photographic image. Another method of modern lighting is the use of colored light. In this instance, the source of illumination is a bank of fluorescent tube lights which are individually covered with colored gelatine or cellophane. By lighting the copy with specifically colored light, certain light filters can be eliminated. Other advantages are that certain filters can be used in combination with the colored light. Both of these methods of lighting were designed primarily as a means to eliminate post photographic hand retouching and opaqueing. This objective has been accomplished in part to a certain extent. To the foregoing, can be added incandescent flood lamps and flash units. Flood lamps are generally used to supplement the illumination of difficult copy, and can in some instances be used as the only source of illumination.

The flash units are so built as to fit snugly over the lens barrel of the camera, thus providing sufficient light for the overall flash exposure in halftone photography. Use of this unit assures a uniform light distribution in the halftone dot formation, and eliminates the necessity of exposing the negative to illuminated flash paper, with which the copy is covered, each time an exposure is made.

Properties Of Light

It is difficult to discuss light without discussing color, because light *is* color. And in order to understand photography, it is necessary that light and its characteristics be understood.

Light and color are sensations received by the nerve cells in the retina of the eye in response to external radiation or reflection of sources of energy. The nerve cells are two kinds, cones and rods. Upon stimulation, the cones respond to Red and Green but are colorblind to Blue light which stimulates the rods. Since the rods are more sensitive to light than the cones, they record light waves at much lower levels of intensity. Consequently, the color of an object seems to change with diminishing light until it appears to be bluish gray.

Of all the radiation on earth, the eye is sensitive to only a very small part that is known as light. The part of the wave band that can be seen is called the visible spectrum, and it is of the same magnetic nature as the X-rays, radio waves, etc. The electromagnetic spectrum is shown in Figs. 6 and 7.

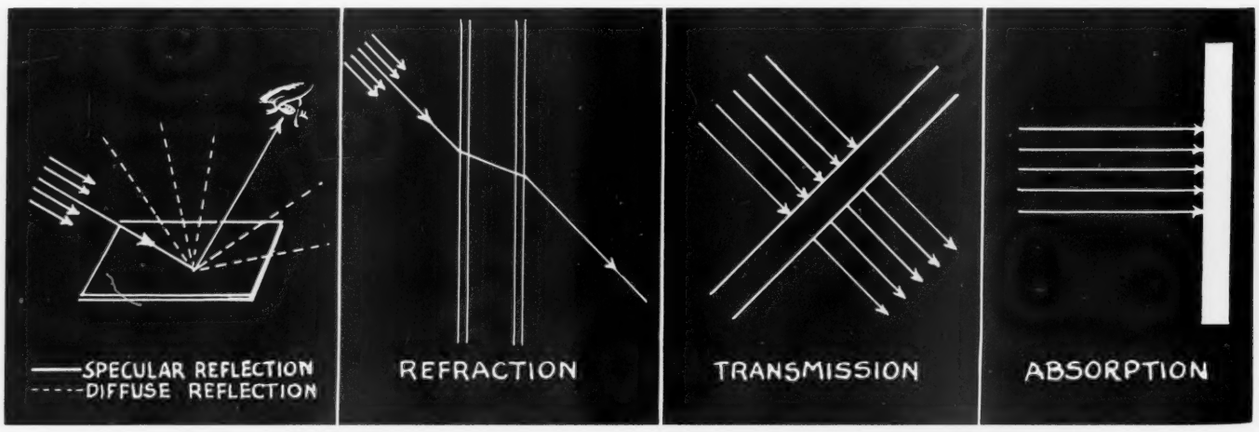
At longer wave lengths than the Red rays are those of the Infra-red band. Shorter wave lengths than the violet are those of the Ultra-violet and X-rays. Although these wave bands and rays are invisible to the human eye, they do possess photographic qualities.

Heat is the principal effect of the infra-red rays, which extend out from the end of the visible spectrum. As the waves increase in length, the radiation merges into heat waves and finally into radio waves.

The only part of the infra-red band valuable to photography is that portion nearest the visible Red band, and is almost of the same width as the visible Red and Green regions.

At the other extreme is the Ultra-

Fig. 7b. Fig. 7c. Fig. 7d. Fig. 7e.



violet band which has a strong action on photographic materials and can be detected by photographic means. The fluorescent process of photography is dependent a great deal upon the action of Ultra-violet rays, also called Black Light.

Ultra-violet rays when projected upon certain elements, compounds, mixtures and metals, causes them to fluoresce and glow, radiations of which are capable of registering on certain photographic films and plates.

LIGHT AND PHOTOGRAPHY

Light is, in effect, the most important tool in the art of photomechanical reproduction, and should therefore be given the closest consideration, and should never be sacrificed at the expense of other equipment. When understood, Light can be controlled and directed to serve effectively in the production of high quality reproductions. It is well to remember that "*There can be no photography without Light.*"

Characteristics of Light

Light is capable of being reflected, refracted, transmitted, diffused, dispersed or absorbed.

Sunlight is the simultaneous perception of many varied waves of radiations which produce the sensation of White Light. When a beam of sunlight is passed through a prism, the colors of some of its component rays are made visible, most prominent of which are Red, Orange, Yellow, Green, Blue, and Violet. (See Fig. 7a.)

How Light Acts

(1.) *Reflection*—Light rays that are not transmitted by a subject are thrown back. When light is diverted from a surface, the action is called "reflection". The reflected ray is in the same plane and at the same angle to the surface as the incident ray. This is called specular reflection. (Fig. 7b.)

When an incident ray is reflected in many directions, this is called diffuse reflection, Fig. 7b. A smooth, glossy or polished surface causes specular reflection (Fig. 6b). Diffuse reflection is caused by a dull, matte or rough surface.

(2.) *Refraction*—(a) When white light enters a prism, the waves are refracted in different degrees dependent upon the wave lengths. This phenomenon is called dispersion.

(b) When a ray of light passes obliquely from one medium into a medium of different density, its direction is changed. This characteristic enables a lens to form an image. The term, refraction, applies to this phenomenon as in Fig. 7c.

A normal ray is one that enters any medium perpendicularly to its surface. Its direction is not changed. (Fig. 7d.)

(3.) *Transmission*—If an object can be seen and clearly identified through certain mediums, such mediums are said to be transparent. When light is passed through those mediums, the light is transmitted. (Fig. 7d.)

(4.) *Diffusion*—When objects are not clearly distinguishable when viewed through a medium such as opal or ground glass, that medium is translucent. If light is transmitted through a translucent material, the light rays are scattered, producing the effect called diffusion.

(5.) *Absorption*—Light which is incident upon a medium and is neither transmitted nor reflected is absorbed. An opaque substance is one which does not transmit light but which may or may not be capable of reflecting light. (Fig. 7e.)

Color

When the intensities of all colors in the visible spectrum to which the eye responds are uniformly balanced, the resultant sensation is called White Light. If some of the colors are withheld or cut out, the nerve cells in the retina of the eye do not react uniformly and the resulting sensation is color. Relative stimulation of the rods and cones to the intensities of the three primaries (Red, Green and Blue) reflected or radiated from the object determines the individual's interpretation of color. Accordingly, all colors are mixtures of the three primary colors. When no light stimulation is received from an object, the color sensation is black, or the absence of light.

Color has no physical property but is a mental reaction to an object, and is subject to the variations of an observer's nervous system. An individual's reaction and judgment of color is influenced by the nature and intensity of light, the degree of fatigue, surrounding colors and the existence of partial or complete color-blindness.

The energy or light waves that stimulate color sensation, are physical properties that can be controlled and measured. A beam of light can be unravelled and spread out as a band so its wave lengths can be measured and identified, with instruments such as the spectrometer and the spectrophotometer.

Colors can be combined to form new colors either by the additive or subtractive methods. When the primaries, Red, Green and Blue colors of light are added together the result is White light. The addition of Red and Green light produces Yellow light, while the addition of Blue and Red light produces the color sensation of Magenta. This phenomenon is called the "Additive Method". See Fig. 8.

In the subtractive method, colored light such as that obtained when light is

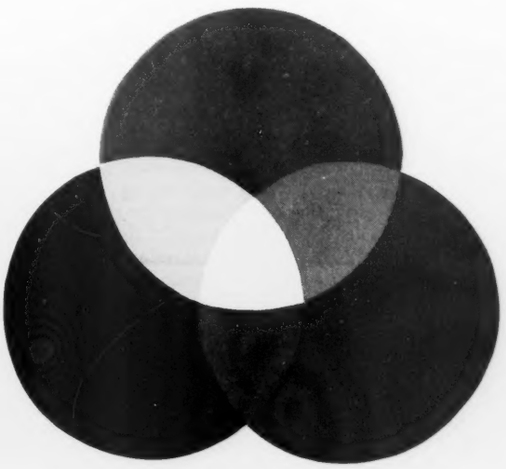


Fig. 8.—ADDITIVE COMBINATION resulting from projection of colored lights, or appearance of adjacent colored halftone dots.

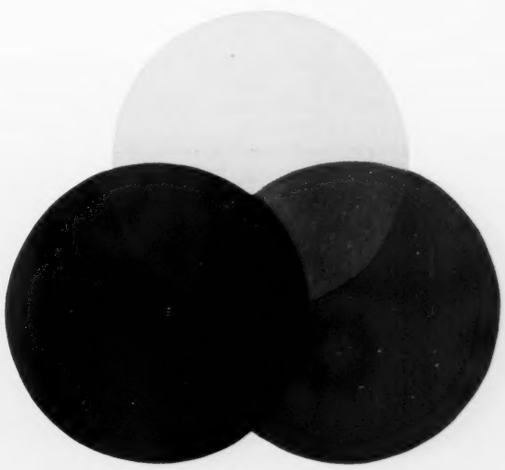


Fig. 9.—SUBTRACTIVE COMBINATION resulting from superimposed dyed layers (color film), overlapping color filters, or overlapping halftone dots.

COMPARISON OF ESSENTIAL PARTS OF THE EYE WITH THE ESSENTIAL PARTS OF A CAMERA

EYE	CAMERA
Outside shell of eye	Light-tight outer box enclosure of the camera
Pupil	Lens
Iris	Diaphragm
Eyelid	Shutter
Retina	Light-sensitive material
Rods and Cones	Color Filters

passed through a series of differently colored light filters, is *that light* not absorbed by any of the filters. When White light is intercepted by a combination of Yellow and Blue color filters, the remaining light passed through is Green, because transmission of the Red rays was stopped. Combining the three subtractive primary (Yellow, Red and Blue), or one of the primaries with its complementary, blocks out all light, resulting in black, or the absence of visible light. (Fig. 9.)

In reproducing colored originals, both additive and subtractive combinations influence each stage of the process.

Color Comparison

Original colored pigments in the copy are altered by the kind of illumination used. Various forms of lighting such as that of carbon arcs, incandescent lamps, fluorescent tubes or daylight, are composed of different proportions of colored lights. Each type of light reacts differently when combined with colored pigments in the copy, resulting in apparent differences in their coloring.

The eye tends to blend complementaries of adjacent colors with a particular color being observed. This blending can be avoided if colors are matched by spotting through small openings in similar masks, preferably made of black paper or blackened photographic film.

When the copy is a drawing or painting, the light reflected from it includes not only that reflected by the colored pigments in the copy, but also the reflected white light that increases in intensity with the glossiness of the surface. In transparency copy the transmitted light is the only light observed. A black and white transparency permits the passage of white light, modified however by color tints or chemical stains which may be present.

If a color transparency is the copy, then the light transmitted is filtered by the incorporated dyes. Here variations in intensities of the light transmitted, white and colored, set up reactions that require several modifications in reproductive procedures.

Impurities of color pigments and reflected or transmitted white light, all interfere with accurate color separation.

Light and Photography

Photography means the production of a visible image on a light-sensitive material by action of, or exposure to light. These images may become directly visible on exposure to light, or they may be latent and invisible, requiring chemical treatment to develop them so they can be seen.

The photographic camera and the eye function in a manner, which is strikingly similar. In making a picture, reflected or transmitted light rays coming from a luminous source are concentrated by the lens onto the back inside wall of the camera. There, they form an image. When this wall is covered with light-sensitive material, film, plate or paper, the resulting image can be converted by development into a permanent and visible record. Too much light may spoil the image, while too little light will fail to register on the sensitive material, also resulting in spoilage.

The basic differences between seeing an object and photographing an object is that sight is temporary and a photograph is permanent.

Cooperative Research

By M. S. Kantrowitz, Chairman, Research Committee, Washington Club of Printing House Craftsmen.

COOPERATIVE research with the Printing Industry of America, Inc., was instituted in February, 1947 in the office of the Public Printer to encourage research, undertake studies, and disseminate information on materials, methods and operations for the purpose of improving the quality of products and increasing production with resultant lower costs. To date the Government Printing Office has prepared and printed 12 GPO-PIA Joint Research Bulletins on various subjects. They are:

Type Metals
Detergents for the Printer
Electrotyping in the Government Printing Office
Ruling Inks and Dyes
Process of Marbling Paper
Bookbinding Pastes
Bindery Glues
Miscellaneous Bookbinding Adhesives
Bookbinding Leather
Bronze Stamping Leaf
Pyroxylin-Treated Book Cloths
Control of Warp in Book Covers

These are for sale by the Superintendent of Documents.

There is now in preparation by the GPO, a bulletin entitled *Paper Boards for Bookbinding*, and it is contemplated to prepare a bulletin on *Bookbinding Sewing Thread* and possibly one on *Starch-Filled Book Cloths*.

Three bulletins or monographs have been published by the Printing Industry of America, Inc. as GPO-PIA Joint Research Bulletins. One entitled *Magnesium Plates, PL-1*, represents a summation of the actual experience of companies utilizing these plates. Another, entitled *Reproduction Proofs, C-2*, is a compilation of information and experience that has been developed over many years in the actual making of reproduction proofs in leading typographic and printing houses. The third monograph lists approximately 150 research and engineering projects which are being carried on throughout the United States and informs who is conducting the research and where it is being done.

A conference on static electricity was held and investigations have been started as to the possibility of developing antistatic agents which may be added to paper to reduce the undesirable effort of static electricity. At another in this series of industry conferences, platemakers, printers and technicians discussed problems pertaining to platemaking.

Among the activities which the Research Council, successor to the Research and Engineering Committee of the PIA, has already undertaken are such items as the development of more efficient printing rollers, the adaptation of machine coated paper for gravure, the development of devices and procedures to reduce time and cost for preparation and makeready, and a study to reduce paper spoilage.

The handling of materials by the printing industry is undergoing a thorough study and specifications for such items as skids, banding materials, disposable pallets, roll cores, and standard methods for loading cars are being prepared with a view to reducing losses caused by unnecessary damage resulting from improper handling of paper.

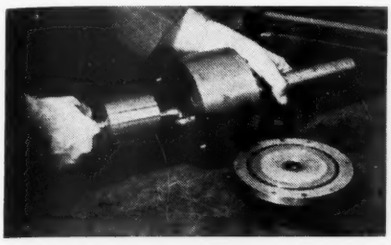
Among the 10,000 production executive readers of *Printing Equipment Engineer* you will find ready buyers for your surplus equipment. Tell them what you have available in *Printing Equipment Engineer* Classified Ads. Rates on page 75.

EQUIPMENT & SUPPLIES

If you wish additional information concerning equipment, supplies and/or technical literature, please make your request to *Printing Equipment Engineer*, 1276 West Third St., Cleveland 13, Ohio.

Magnetic-Fluid Clutch

A LIQUID which, it is claimed, can instantly change to a solid and then return to a liquid again, is a feature of an improved magnetic-fluid clutch announced by General Electric Co. Sponsor states the device is capable



G-E Magnetic-Fluid Clutch, which sponsor claims is capable of carrying enough power to lift 1 T., 1000 ft. per min.

of carrying enough power to lift 1 T., 1000 ft. per min. Measuring 6 in. long and 6 in. diam., it was emphasized that the clutch is still in the laboratory stage.

Consisting of two metal cylinders, each able to rotate independently on the same axis, the clutch transmits rotary power from its source to its load. The cylinders are separated by a magnetic mixture of oil and finely-divided iron powder. When the unit it energized, the fluid instantly solidifies, making a connection between the two cylinders, so that as one cylinder revolves, its motion is transmitted to the other.

Power can be applied to the load and removed from it by the clutch operator. Degrees of rigidity of the magnetic fluid can be obtained by regulating the current, so that the clutch can be allowed to slip if necessary.

Gauging Dry Film, Foil, etc.

A METHOD for measuring the thickness of dried films and also the thickness of thin sheet metals, foils, paper or plastic, has been announced by the Henry A. Gardner Laboratory, Inc. The method was developed by Maynard R. Euverard of Interchemical Corporation and Paul N. Gardner of the Gardner Laboratory, and employs the Interchemical Direct Reading Thickness Gauge (developed by Mr. Euverard) which is used for wet-film measurement.

The dry film is measured visually by means of an optical attachment to the gauge plus a suitable light source. The film is stripped at two points about a ½ in. apart and the two outside gauge wheels rest on these stripped areas. The gauge is rotated until its eccentric center wheel touches the film. A light source (placed behind the gauge) permits observer to check the point at which center wheel meets the film and cuts off light. Direction of gauge rotation can be reversed and the average of two readings used for greater accuracy. Measurements are readily reproducible with sharp endpoints.

For measuring thin metal sheets, foils, paper and plastic films, a feeler method is used. The gauge rests on a plane surface with its eccentric center wheel at maximum reading. A narrow strip of the sheet material is placed on the plane surface between the two outer wheels. The gauge is rotated over the strip until a slight binding is noticed as the strip is slid under the measuring surface. A reading at that point gives the thickness. A second reading with the gauge rotated in reverse direction can be averaged with the first.

Operator making visual measurement of paint film using Interchemical Thickness Gauge with dry film attachment and illuminated table.

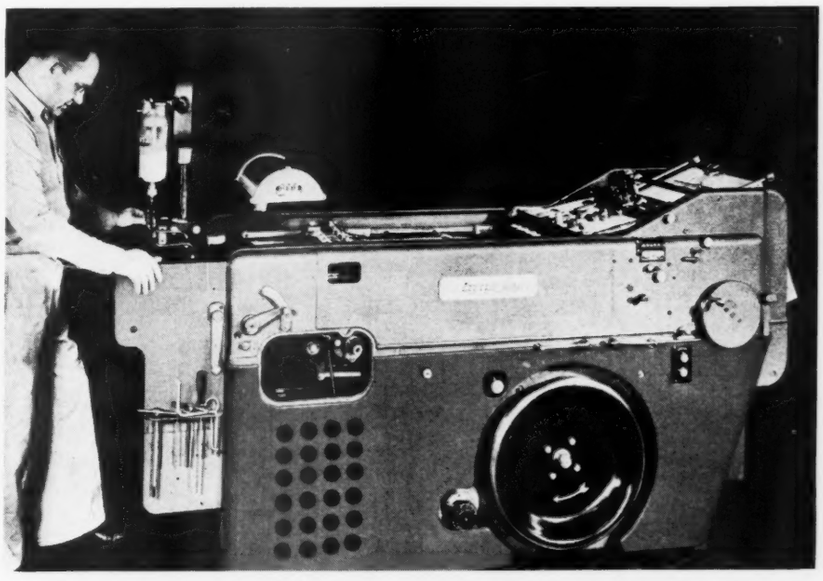
ATF Little Giant Press

AN IMPROVED model of the ATF Little Giant cylinder press has been announced by American Type Founders, 200 Elmora Ave., Elizabeth B, N. J. Sponsor states the press exerts 3500 lbs. impressional strength upon a sheet of paper. It will accommodate sheet sizes ranging from 3¼ in. by 5½ in. to 12 in. by 18 in. The press has a running speed up to 5000 i.p.h. and stepless variable speed control.

Known as the Little Giant No. 6, the improvements include the enclosing of moving parts of the press. Feeder is equipped with 8 air suckers having individual shut-off springs, the position of which are determinable on sight. Double chamber pump serves both feeder suction and blast and delivery tape suction and non-offset gun. Air lines are protected by filters or oil and moisture separators.

Ink fountain has been enlarged to hold 2½ times more ink than the previous model. Fountain throw selector has 16 positions. Suction tapes on the reciprocating carriage grip the sheet when released by the delivery fingers and take it to the jogger.

Specifications: max. printing area, 11¾ in. by 17½ in.; type bed size, 15¼ in. by 18½ in.; floor space, 34 in. by 88 in.; motor, 2 h.p.; net weight, 2730 lbs.



ATF Little Giant No. 6 high speed cylinder press announced by American Type Founders equipped with variable speed control for speeds ranging from 2500 to 5000 i.p.h.

Operated by push-button and two handed cutting controls is this 37 in. Automatic Paper Cutter announced by The Chandler & Price Co.

C & P 37 in. Automatic Cutter

THE Chandler & Price Co. has announced a 37 in. Automatic Paper Cutter operated by push-button and two handed cutting controls and equipped with a non-repeat device. The knife is guarded at both ends and pulled in the direction of the cut.

Space for jogging and cutting is provided by the table which extends 20 3/8 in. in front of the knife and 37¼ in. back of the knife. Width of the table between housings is 37 in. with extensions on both right and left sides. Top yoke is equipped with built-in fluorescent light. Binder clamp raises 4 in. and may be moved independently of the knife.

A handwheel provides travel of chain driven back gauge which runs on ball bearings. Measuring tape reads in picas and inches. The magnifying glass for reading tape is adjustable to the operator's height. Power is provided by 2 h.p. motor with V belt drive, which is mounted under the table.

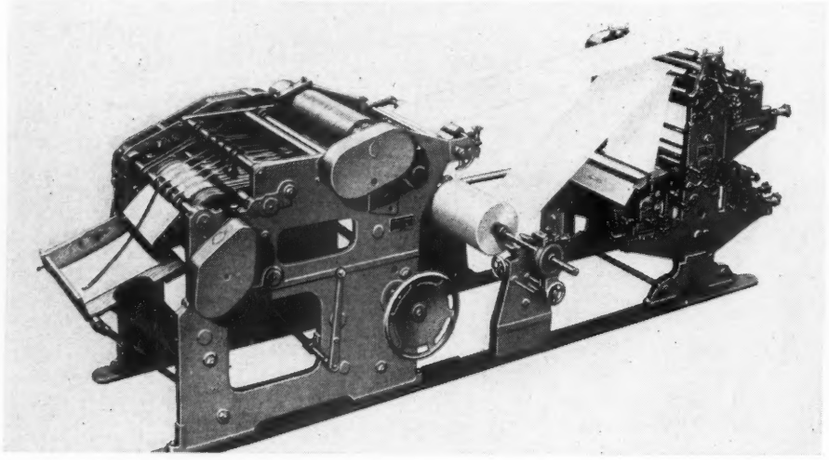
Specifications: overall width, 68½ in.; overall length, 77½ in.; height, 60 in.; net weight including motor, 3300 lbs.; cuts per min., 40; height of table above floor, 40 in.; min. cut, ¾ in.

Aniline Rotary Press

A WEB fed rotary press which can be used for aniline, regular letterpress or rotogravure printing and may be used with either a rewinder or sheeter, has been announced by Hudson-Sharp Machine Co., 1201 Main St., Green Bay, Wis. The press is built in stack design with each color unit complete with fountain and tympan roll. Available in from one to six color units.

The press may be used for any print repeat from a min. of 10 in. to a max. of 30 in. by a change of print rolls and print roll gears. Available for either all-aniline or all-letterpress printing or with combinations of both. Single or double rotogravure units may be added also. Rubber printing plates are used for both the letterpress and aniline operations.

The sheeter comprises a cutoff knife which is insertable and adjustable. A collecting cylinder is used for general sheeting with collations of from 5 to 12 sheets delivered in single deliveries. In sheeting certain heavy stock, the collecting cylinder may be cut out and a single sheet delivery used. Both sides of a single sheet may be printed in one operation and two sheets may be printed in one or two colors and sheeted or rewound.



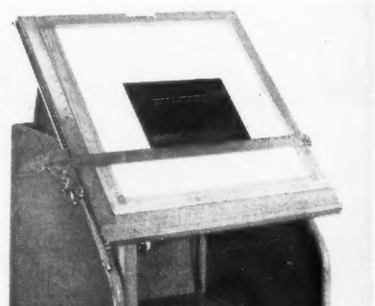
Web fed rotary press which can be used for aniline, regular letterpress or rotogravure printing, announced by Hudson-Sharp Machine Co.

Slitter and Rewinder

CHARLES BECK Machine Corp. has announced an improved model of the Beck Razor Blade Slitter and Rewinder for cutting and rewinding rolls of any size. The 1950 model features an improved blade holder which holds blades in place with a single snap-fastener and may be changed without disturbing the setting. The blade setting gauge is adjustable to any slitting width desired. Adjustment of the individual web tension rewind is also possible. A reverse rewind drive is available, allowing rewinding with either surface on the outside.

Line-up and Light Table

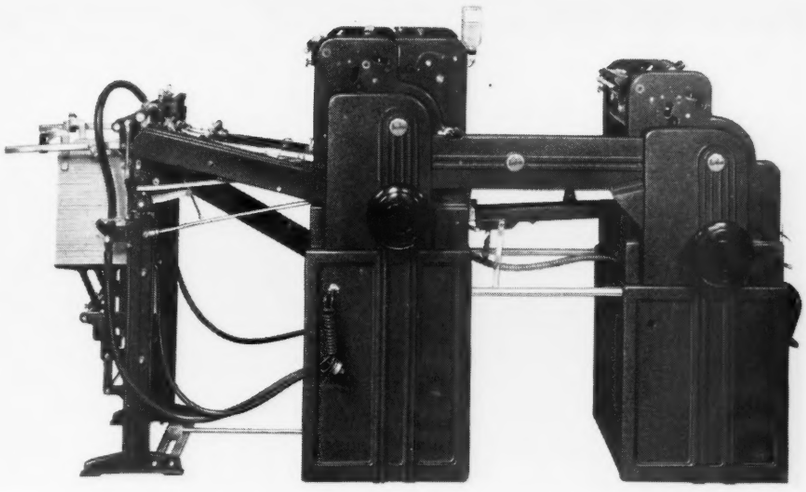
THE Paraliner Co., Inc., 226 Colorado Bldg., Washington 5, D. C., has announced the Paraliner Line-up and Light Table designed for use in offset-lith, printing, photoengraving, rotogravure, engineering and duplicating. The table can be used for ruling forms, negatives, etc., stripping, copy layout, retouching, opaquing and masking.



Paraliner Line-up and Light Table for ruling forms, negatives, etc., stripping, copy layout, retouching, opaquing and masking.

Table is equipped with a mechanical ruler and tubular micrometer for ruling of parallel lines, either horizontal, vertical or diagonal, of any desired spacing. Working surface, which measures 26 in. by 26 in., can be rotated 90 deg. without removing the copy. Working area can also be tilted to any desired angle up to 70 deg. from its level table top position.

Other features include a wheel for tilting and locking table at any angle, counter-balance device to facilitate positioning of glass top, height adjusters for leg shafts, instrument ledge, stainless steel straight edge and glass top with nonglare fluorescent lighting. Dimensions: height with working surface not raised, 36 in.; width, 28¾ in.; depth, 28¾ in., weight, approx. 150 lbs.



The Multiple Davidson Dual, a two unit, sheet-fed press which prints by either letterpress or offset, announced by Davidson Mfg. Corp. Either unit of the press may be used for offset or letterpress printing.

Letterpress-Offset Press

DAVIDSON Mfg. Corp. has announced the Multiple Davidson Dual, a two unit, sheet-fed press which prints by both the letterpress and offset process. Sponsor claims the press will print both sides of the sheet in one color by either offset or letterpress, print one color by offset on one side of the sheet and a second color by either offset or letterpress on the reverse side, or print by offset on one side of the sheet with letterpress imprinting and/or numbering on the same side.

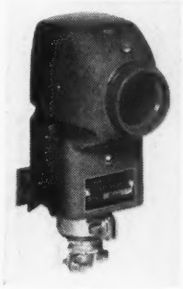
In addition, states the sponsor, jobs of one color and printed on one side of the sheet may be handled on the first unit alone with the second unit disengaged. Either unit of the press may be used for offset or letterpress printing. Changeover from one process to another is claimed to be accomplished easily.

Either metal or paper plates are used for offset work, while rubber plates, curved electrotypes, or individual type are used for letterpress. For imprinting, line composing machine slugs, rubber plates or individual type are employed. A standard Davidson feeder with double-sheet eliminator supplies the first unit while an intermediate conveyor carries the sheet from the first unit to the second, face up or tumbled as required.

Specifications: sheet size, max. 10 in. by 14 in., min. 3 in. by 5 in.; feeder capacity, 5000 sheets, 20 lb. stock; max. form size, 9¾ in. by 13 in.; speed, approx. 5400 r.p.h.; overall size, 28¼ in. by 108 in. by 55 in. high; shipping weight, approx. 1700 lbs.

G-E Photoelectric Eyes

DESIGNED for use on conveyors, steam valves, fiber cutting machines, and automatic door openers, and in indicating misalignment of the web on a printing press, overtravel of skip hoist, etc., are an improved range of light sources and phototube holders announced by General Electric Co. The accessories can be applied with photoelectric relays for counting, signalling, limiting, controlling or protecting.



G-E Light Source for use with photoelectric relays for counting, controlling, signalling, etc.

According to G-E, the light sources have snap-on covers that make possible lamp replacement in about 20 sec. To assure that the filament is in the proper position in relation to the transmitting lens of the light source, prefocused lamps are used throughout. The phototube holder is furnished with phototube, lens, masks and 9 ft. of connecting cable. A mounting clamp is also provided.

Suprene Belting

DESIGNED for elevating and conveying requirements in handling all types of materials is Suprene Belting, which is described in a four page bulletin is available in four styles, from 2 ply to 8 ply thicknesses and widths up to 48 in. The bulletin includes a combination price list and specification chart which indicates the variety and thicknesses available, the ultimate breaking strength and approx. weight per 100 sq. ft.

Monomelt Power Shear

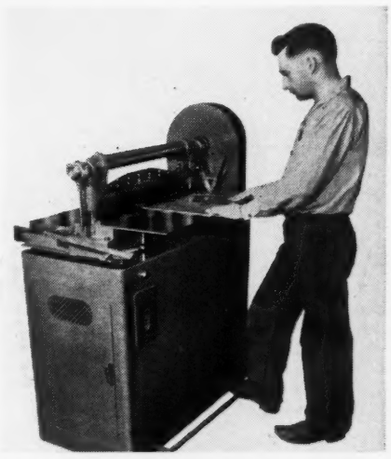
A POWER shear has been announced by The Monomelt Co., Inc. It is designed to cut and trim electrotypes, stereotype casts, 16 ga. copper and zinc half-tones up to 24 in. wide and the new hard plastic plates without leaving burrs on plate edges.

Shear blades are hardened and ground tool steel. The upper blade is provided with one cutting edge, while the lower blade is supplied with four cutting edges.

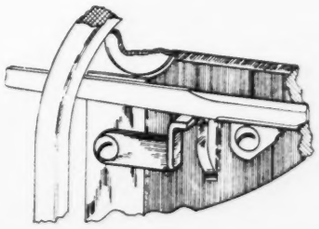
The shear is driven by a 2 h.p. push button control geared head motor through a silent roller chain drive.

A return plate table at the rear of the machine may be set in either one of two positions by a hand lever. In the forward position the sheared cast remains on the table. When table is moved to the rear position plate trimmings fall directly into a floor receptacle at the rear.

Operating height is 40 in. Floor space required is 30 in. by 40 in. Weight, 1000 lbs.



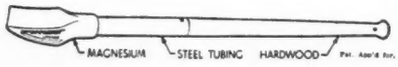
Monomelt Power Shear for cutting and trimming electrotypes, stereotype casts, 16 ga. copper and zinc halftones up to 24 in. wide, and plastic plates.



Adjustable Spaceband Buffer Finger Support—Linotype Parts Co., Inc., 2 S. Main St., South Hackensack, N. J., has announced an adjustable spaceband buffer finger support designed to insure the proper stance of spacebands in the assembling elevator on line-composing machines. Sponsor states the support can be installed on the machine in approx. 2 min. After tightening it in place, the desired angle is obtained by tapping slightly from the underside to tilt the spaceband buffer finger, with the object of having the spacebands lean forward as they are assembled.

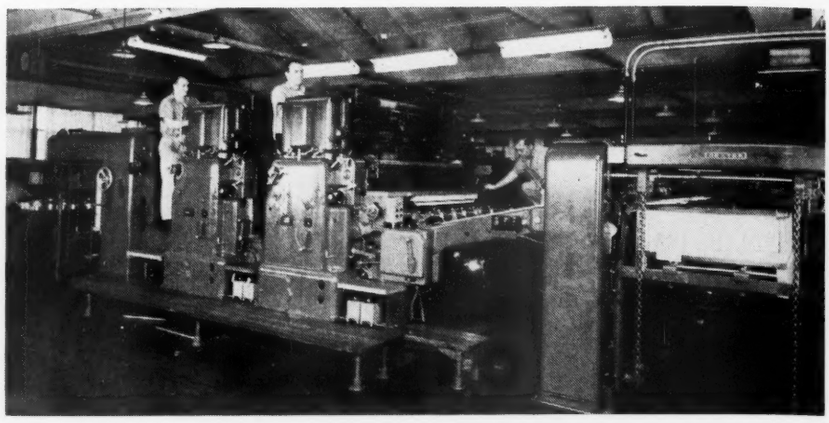
Recent Equipment Installations

Medium-weight Fork Truck—Elwell-Parker Electric Co. has announced a medium-weight electric power fork truck for handling loads weighing up to 4000 lbs. For tiering operations, the truck lifts skids and other loads to a base height of 130 in. Upright column can be hydraulically tilted 5 deg. forward and 12 deg. backward from vertical position. Overall length of truck with 36 in. fork is 116 in.; width, 41 in.; and height with uprights telescoped, 83 in. Travel speed on straightaway with full load is 5½ mi. an hr. Lift cylinder is above vision point when load is elevated.



Roll Paper Paddle—William A. Norman has announced a paper roll paddle designed with a magnesium head to facilitate the unloading and moving of paper rolls. The 42 in. long paddle is made of magnesium, steel tubing and hardwood as shown above. Handle is replaceable. Magnesium head measures 4 in. wide.

Self-pressure Torch — Turner Brass Works has announced a self-pressure torch designed with brass wire interwoven with the wick for conducting heat from the burner into the tank. The 3½ in. diam. tank is constructed of heavy gauge brass. The tank holds 7½ oz. of fuel and it is claimed the torch will burn 3½ hrs. when full open at a temperature of 1700 deg. by pyrometer reading. Equipped with soldering iron rest and windshield. Available in two models—No. 59 for gasoline and No. 60 for alcohol.



Conde Nast Installs Miehle—The two-color Miehle No. 61 Offset Press pictured above, has been installed at the plant of Conde Nast Publications, Inc., Greenwich, Conn. Max. sheet size of press is 42 in. by 58 in. with speeds up to 6500 sheets per hr.

Harris-Seybold Equipment Sales

Some of the recent equipment sales for January and February 1950, reported by Harris-Seybold Co. are as follows:

Offset Presses

California—Hurst & Yount, Chico; Aldine Printing Co., Los Angeles.

Colorado—Hobby Stationery, Inc., Colorado Springs.

District of Columbia—U. S. Government Printing Office, Washington; U. S. Navy, Hydrographic Office, Washington.

Idaho—Syms York Co., Boise.

Illinois—Edwards & Deutsch Litho Co., Chicago; D. F. Keller Co., Chicago.

Indiana—Messenger Corporation, Auburn.

Iowa—Burlington Laboratories, Inc., Burlington.

Kansas—Donlevy Lithograph Co., Wichita.

Maryland—Barton-Cotton, Inc., Baltimore; Wickland-Nalley Litho., Inc., Westminster.

New York—Wickersham Press, Inc., Long Island City; Albert Arenson Press Co., New York; F. M. Charlton Co., New York; Kipe Offset Process Co., New York; Rochester Lithograph Co., Rochester.

Letterpress

Connecticut—National Folding Box Co., Harris 45x65 Model TRG two-color rotary with double delivery.

Paper Cutting and Processing

Massachusetts—Storrs & Bement Co., Boston, cutter.

Michigan—Michigan Bookbinding Co., Detroit, multiple spindle drilling machine.

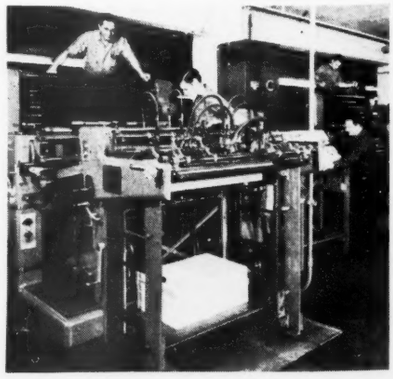
New York—Industrial Litho Co., Inc., Brooklyn, cutter; R. Colucci Sons, Inc., New York, knife grinder; Gaylord Brothers, Inc., Syracuse, automatic spacer cutter.

Ohio—The Multi Color Co., Cincinnati, 2 cutters; Ohio State Bindery, Columbus, knife grinder; Reynolds & Reynolds Co., Dayton, cutter.

Pennsylvania—Herbick & Held Printing Co., Pittsburgh, multiple spindle drilling machine.

Texas—Wm. S. Henson, Inc., Dallas, cutter; Wetmore & Co., Houston, cutter.

Wisconsin—Joseph Loberger, Appleton, knife grinder; Riverside Paper Corp., Appleton, multiple spindle drilling machine.

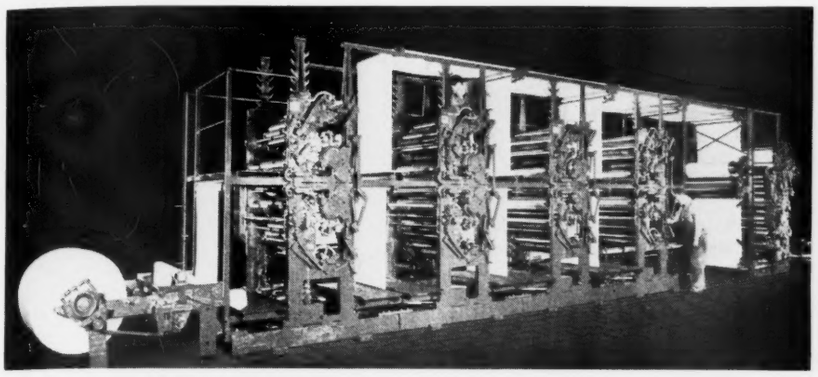


EBCO Installation—The third EBCO 22 in. by 34 in. Single-Color Offset Press was installed recently at the Bailey Press in Boston, according to an announcement by the Printing Machinery Div., Electric Boat Co. Pictured above at the new press, from left to right, are: Joseph Grillo, Joseph Trahan, Peter Grillo, Plant Superintendent, and Alfred Fiorelli.

If your printing plant executive status has changed, please notify *Printing Equipment Engineer* promptly. By doing so, you can be sure to receive this magazine promptly at your business address.

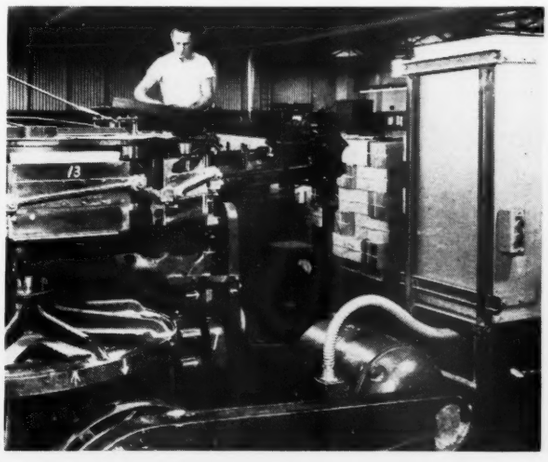
235 Use Engraver

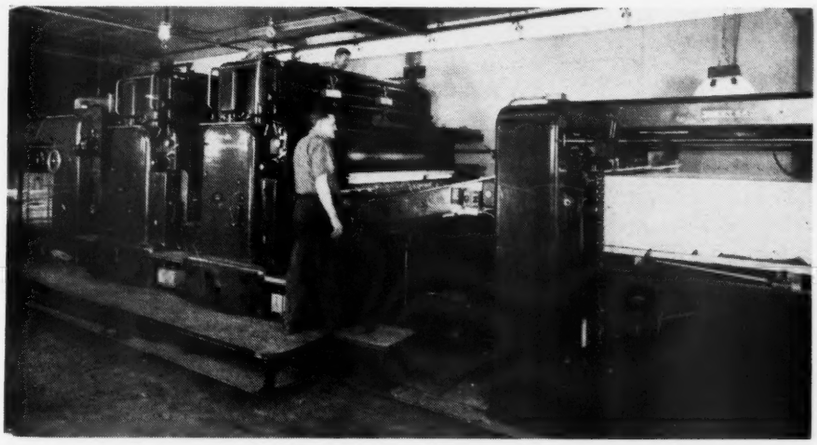
The Fairchild Camera & Instrument Corp. has announced that the firm's Photo-Electric Engraver is now in operation in 235 daily and weekly newspapers. According to C. A. Harrison, Vice President in Charge of Sales, orders received from 25 publishers have brought to 260 the number of newspapers joining the Fairchild network of engraver service.



ATF Press to be Installed in Finland—American Type Founders has announced installation of this ATF-Webendorfer web-fed, four-color offset press in the plant of Sanoma Oy of Helsinki, Finland. The press is to be used for printing foreign editions of the *Readers Digest*. The machine is arranged to print four colors on each side of the web or print black on each side of four separate webs, collating these at the folder to produce a newspaper-size product, tabloid product, magazine product, or magazine product two-up. ATF states the press has a web speed in excess of 400 f.p.m. and a max. web width of 35 in.

Telephone Book Production — At the Telephone Directory Plant of the Times-Mirror Press, Los Angeles, Calif., General Electric equipment has been helping to turn out tons of telephone books during the past several months. In the lower right foreground of the picture can be seen a G-E adjustable-speed a. c. motor and associated control cabinet (right). This equipment provides the power for the binder shown which, it is claimed, is capable of binding from 75 to 85 million pages in a 23 hour day. The 10 h. p. motor has a continuous speed control from 1800 r.p.m. down to 833 r.p.m.





Installs Miehle Two-Color Offset Presses—One of two Miehle No. 76 Two-Color Offset Presses installed in the plant of Kindred-MacLean Co. of Long Island City, N. Y., is pictured above in operation. This model press handles a max. sheet, 52 in. by 76 in., and may be operated at speeds up to 6000 sheets per hr.

Installs Spacer Cutter

E. P. Lawson Co., Inc., has announced the installation of a Lawson Electronic Spacer Cutter in the plant of the Atlas Lithographing Co. of Pittsburgh, Pa. Established in 1933, the Atlas firm was recently enlarged to 17,000 sq. ft. of floor space.

Study Your Workflow

(Abstracted from talk delivered by Ray C. Cook, Sales Director, Printers Equipment Div., Hamilton Mfg. Co., before the March 1950 meeting of the Cleveland Club of Printing House Craftsmen.)

FOR many years, generally speaking, management looked upon the composing room more as a necessary evil and a part of overhead, than as a profitable operating department. The composing room could be described as the most neglected department in many printing plants. Other departments, such as the pressroom and bindery, handling that part of the shop production that is delivered directly to the purchaser, seemed to be considered by management as the sources that produced the revenue.

Since the advent of cost systems, time studies, cost analyses, etc., management has been awakened to the need for careful study of production costs in the composing room. There is, however, a long road ahead in order to correct this situation from an overall standpoint.

Like Topsy, most composing rooms "just growed." Printing plant executives that have made actual layouts are in the minority. When it became an absolute necessity to add a new type cabinet, imposing table or galley storage cabinet, it usually arrived when everyone was busy. The old equipment was loaded with type and metal storage. Because it was heavy and difficult to move, the new piece went into the first spot where space was available. Little or no regard was taken with respect to its relationship to step-saving and efficiency in the workflow.

An equipment layout should place the material and machines within easiest reach of the worker. If the worker is compelled to chase after material throughout the department, a noticeable difference is seen in production. The automobile industry is an example of direct workflow. It is not possible, of course, to bring the work to the man in all instances in the printing industry. But the principles of automobile production should be studied and applied so far as possible. This can be done by arranging the equipment and materials within easy reach thus eliminating unnecessary steps.

The lack of coordination of men and equipment in composing rooms is becoming more and more apparent to plant executives who have noticed their costs going up. If we are to operate at a profit —and that is the only reason we are in business—we must take the time and make the effort to properly organize equipment arrangement so that manpower may produce more with less lost motion and wasting of time in running after and searching for materials.

ANPA Exhibit Previews

Aluminum Chases Several models of aluminum stereotype chases will be displayed by the Beard Newsprint & Warehouse Co., Inc., at the ANPA Mechanical Conference to be held at Hotel Statler, Buffalo, N. Y., on June 12, 13 and 14. The 1950 models of the Dural Stereotype Chases include a spring release in the lock bar and a chase key to fit the ½ in. straight shank lock bolts.

These models are also equipped with four expander plugs evenly spaced in the locking bars. All four sides of the frame and also the foot bar, are 1¾ in. wide. Dural chases are made of the aluminum alloy and weigh approx. 20 lbs.

Newspaper mechanical and production executives will also be able to examine the Double Truck Dural Chases at the Beard exhibit. These chases are made wider than the standard type matter page required for the center margin on any individual newspaper. A foot bar for the double page width and one for the regular page width are furnished, as well as an additional lock bar. By interchanging these bars, it is possible to convert back and forth from a double truck to two regular size pages.

Graduation marks spaced 1 in. apart, are made to match on the inside or adjoining frames, to aid the compositor in joining up type lines or illustrations extending across the center of the double truck layout. A double truck chase in one piece is also available.

Jefferson Papers Published

Ceremonies on May 17 at the Library of Congress in Washington marked publication of the first volume of *The Papers of Thomas Jefferson* by the Princeton University Press. All volumes in the series will be set in Monticello, a type face cut by the Mergenthaler Linotype Co., an example of which is shown below.

10 Point Monticello with Italic and Small Caps

LINOTYPE abcdefghijklmno 123
LINOTYPE abcdefghijklmno VBC

C. H. Griffith of Mergenthaler is responsible for the design, cutting and production of the type face. Monticello is available in fonts of 7, 8, 9 and 10 pt. with italics and small caps. An example of the face appears above.

Commemorative Stamp — Pictured here is the design of a special 3c postage stamp issued by the government in commemoration of the 300th anniversary of the introduction of printing in Colonial America. The stamp will be placed on sale on September 25 in New York.

(Acme Photo)

Acquires Rode & Brand

Announcement was recently made of the acquisition of Rode & Brand, Inc. of New York, by the Stecher-Traung Lithograph Corp. of Rochester, N. Y., and San Francisco. New address of Rode & Brand is 52 Vanderbilt Ave., New York 17, N. Y.

Hallmark Plant Expansion

A $2.5 million plant with 400 thousand sq. ft. of floor space designed for the production of greeting cards will be built in Kansas City, Mo., by Hallmark Greeting Card Co., according to President Joyce C. Hall. The new plant, located at 25th and Locust Sts., will adjoin the firm's present plant and nearly triple its present production space. It will house executive offices, conference rooms, sales, assembly and shipping departments.

SMICO Acquisition

Announcement has been made of the acquisition of the Charles W. Young Co. of Denver, Colo., by the Sleight Metallic Ink Co. The Young company was formerly distributor for SMICO inks in that territory. Also announced was the appointment of Elmer D. Dunn as Sales Representative for SMICO inks in the Rocky Mountain area. Mr. Dunn was formerly associated with American Type Founders.

Paisley Dilution Calculator

IN order to assist adhesive users in figuring the proper amount of water to be added to a given amount of adhesive to any desired percentage, Paisley Products, Inc., 1770 Canalport Ave., Chicago, Ill., has prepared a Dilution Calculator. The calculating charts are available to adhesive users along with laboratory reports on Paisley adhesives which describes the formula base, diluent to be used and the suggested percentage of dilution to try.

Two-point Interest to Craftsmen—This illustration was made by the Kenman engraving process; it is a portrait of Robert Knox, associated with the Michigan Typesetting Co., Detroit. The picture was taken by *Printing Equipment Engineer* at the San Francisco convention of the International Association of Printing House Craftsmen last September. Robert is wearing one of the prize light green ties designed especially for and worn by Michigan's representatives and executives. The idea was lifted from the hand-painted ties bearing trade marks of automobile manufacturers. Anyhow, we couldn't get Bob Knox to tell us whether the ties were hand-painted or if they were produced by the silk screen process. The tie created much interest at the Craftsmen's convention.

The halftone plate really is not an engraving. It consists of a base film approx. 1/64 in. thick coated with light sensitive emulsion. It looks like a photographic film. A screened negative of the picture to be reproduced is first made in the camera. The screen may range from 65 line to 133 line. After exposure, the screened negative is developed in the usual manner with negative developer, rinsed, fixed in hypo, rinsed and squeegeed, and hung up to dry.

The next operation is to expose the screened negative in contact with the Kenman process film in a printing frame for 1 min. The film is then developed in solution for 5 min., then fixed in hypo solution under agitation for 1 min., rinsed in plain water under agitation for 5 min. The film is transferred to the bleaching tank for about 3 min. under agitation, rinsed again under agitation in plain water. The film now is immersed in a hardening solution for 5 min., after which it is hung up to dry. After drying, the film halftone may be mounted by adhesive on wood base and sawed to size. Alternatively, the film halftones may be affixed to wood base to bring it up to type height, or on rotary press curved saddles with Scotch tape or other adhesive.

Bruce Publishing Company

Uses Color Harmonics

A NEW era opened in March of this year for The Bruce Publishing Co., Milwaukee. This Mid - Western publishing house, which carries a technique and hobby line of books, is best known in the trade as the largest Catholic publishing house in the United States.

Active as tradebook, textbook and magazine publishers, the firm begins its sixtieth year of operation by official occupancy of its own building, a completely remodeled nine story structure. The date of the formal opening coincided with the firm's anniversary date and the birth date of its founder, William George Bruce. The elder Bruce died August 13, 1949, at 93.

As the company expanded its enterprises and grew physically, it literally mushroomed through the building helter-skelter, space taken where and when it could be obtained. After some 50 years in this building the scattered conditions of the various departments, which made for considerable inefficiency, prompted the decision to go into a new building.

The company now has over 700 books in print and averages 200 reprints a year with about 50 new titles being published annually, besides issuing four monthly magazines. Last year's production records totaled over 1 million books and a half-million magazines. The company now employs 275 persons.

Bruce is one of the few publishers to print its own books. The firm also binds its own magazines. The bookbinding, however, is done either in Chicago or in Milwaukee. The prayerbook bindings go to New York.

The new building is located at 400 No. Broadway. The remodeling of the nine story building was based on straight line book and magazine production.

Color Dynamics

Drab colors and yawning warehouse floors in the new Bruce building have been replaced by color harmonics and functional arrangement of space. The efficiency of the organization is expected to increase at least 25 per cent.

It is highly significant that such a company which sells color daily should follow the principles of Color Dynamics in the decoration of its building. Pittsburgh's Color Dynamics embodies the principles that color should be dealt with as a specific and can be used to accomplish successful goals. Throughout the Bruce Building many examples of this are found.

Lobby and Offices

The reception lobby, which is one of the most important areas, is attractive, different and eye-catching. This is done by the use of a rich mauve or eggplant purple walls with book display niches and ceiling of the yellow-green families. Here a person feels that this is the highly colorful and saleable "book jacket" for the Bruce Publishing Co.

Color selection for the office areas was determined by the building orientation, the lighting facilities and the desired office atmosphere. Executive office, which were mainly of east orientation, had by their nature, red and light green color families included. Light natural grayed panelling and wainscoating complete the decorative harmony.

Production Dept. Color

Production areas have light seafoam green ceiling, providing excellent light reflection, with major walls of the green eyerest field. Maintenance dados were provided, with the dark positioned walls painted with a sun reminding suntone color which reinforced the light reflective value in the whole shop.

Much of the production equipment is painted according to Color Dynamics suggestions.

The stationary parts are vista green color, which is high in its eye-rest qualities, while the safety guards, levers pertinent to the machine operation, are of the highly visible-yellow. Electrical outlets and switches were painted and banded with focual orange, remindful of electrical energy.

In total, these color recommendations make for efficiency of operation, increasing quality of production and continued improvement of employer-employee relationship.

Cafeteria Color

A two-wall division color scheme has been applied to the cafeteria. The two window walls are of a red-orange color which is bright, friendly and appealing in proximity to food. The two remaining walls are of a light stratosphere gray which is neutral and relaxing in effect. The floor designs pick up the gray cast with an addition of blue in split complement to the red-orange wall color. The complete atmosphere is one of relaxation and harmony, providing an ideal area for employee enjoyment.

Here at Bruce Publishing can be seen and felt the complete and ever present effect of color on us, as humans. Working areas have been made bright and enjoyable.

Floor Arrangement

The editorial offices and a library are located on the ninth floor; the business offices occupy the eighth and seventh floors; dining and recreation rooms are on the sixth floor; printing and binding are done on the next three floors; the service departments are on the mezzanine second floor. The ground floor is used for the lobby, warehouse and shipping room.

Architect's drawing of the new home of The Bruce Publishing Co. of Milwaukee. The remodeling of the nine story building was based on straight line book and magazine production.

The new building presents a gain of 10,000 sq. ft. in floor space. A three story adjacent building has also been leased for storage purposes.

In general, the reaction of all visitors who include dealers, authors, and friends of the company, has been most significant in that it makes for pleasant meeting.

The equipment modernization aspect of the program on a major scale will come with time. In the transfer of the presses and other machinery to the new building, equipment was completely overhauled and repaired. A new 32 page folder and 6-station gang stitcher were added to the equipment. Plans call for eventual purchase of new presses as they

become necessary, especially for high speed work.

Bruce Enters Book Field

While the magazine business was established in 1891, the company did not enter the book field until 1913. Books in the technical field followed. There are over 200 titles in print on this part of the Bruce list which is headed by such steady sellers as *Farmer's Shop Book* by Louis M. Roehl, *Dictionary of Technical Terms* by Frederic S. Crispin, *Shoe Repairing* by Henry Karg, *Key to Weaving* by Mary E. Black, *Automotive Essentials* by Ray F. Kuns, *Auto Mechanics* by Ray F. Kuns, *Art of the Lapidary* by Francis J. Sperisen and many other books in wood-working, metalworking, electricity, printing, hobbies and handicrafts.

During the war, the firm issued several books for the Armed Forces Institute. The press runs ran into millions of copies. Chief among these was the *Auto-Mechanic Series*.

It wasn't until 1920 that the trend toward Catholic publications began to find expression in the activities of the house. In 1920, the company took over the publication of *Hospital Progress*, official journal of the Catholic Hospital Association of the United States and Canada. Within the same year, the first Catholic book *A Vade Mecum* by Edward F. Garesche, S.J., a small volume for nurses was published.

From that date to the present, while the emphasis has been on the Catholic phase, the public school textbook, as well as the general technical and hobby list for the trade continued to grow. The Catholic book publishing picture in the United States, however, began to change its complexion.

Until this time, the Catholic book business had been associated with the church goods houses primarily because the books published were for the most part written with appeal to nuns and clergy. The Bruce brothers produced books for this group, too, but felt that nothing was being done for Catholic laity (an estimated 25 million persons in the United States). The two Bruce brothers then began a concentrated campaign to go after books for this audience, which meant producing competent and readable biographies, fiction, history, etc.

With the acquisition of *the Roman Catholic School Journal* in 1929, manuscripts on the textbook level in the Catholic field, and also books on the general interest level began to appear. Specialized books on such subjects as canon law, education, apologetics, philosophy, were published, too, but the promotional approach was not to be the same as for the general interest titles.

The company also operates a subsidiary, *The Catholic Literary Foundation* which dates from 1943. It is now the largest Catholic book club in the United States, accepting books of all publishers.

Kidder Buys Richmond Rocket

The Kidder Press Co. has announced the purchase of the Richmond Rocket Gravure Press from the Inta-Roto Machine Co. of Richmond, Va. The entire manufacture and operation will be transferred to the Kidder plant in Dover, N. H. William Armour, former president of Inta-Roto, joins Kidder as Gravure Engineer. He will function as consulting and field engineer. Kidder's General Manager R. H. Mitchell made the announcement of the acquisition.

DoAll Sales Policy

The DoAll Company recently announced a new sales policy covering the DoAll Photoengravers Band Saw. In addition to the DoAll sales-service stores and factory representatives, the company announces the saw will also be sold by established dealers regularly serving the Graphic Arts industry. Factory trained personnel will continue to handle service and provide technical help.

Vinylite Molding at Webb Pub. Co.

THE use of plastic molds and the Monomelt thermoplastic molding method in the electrotype process has recently been introduced in The Webb Pub. Co.'s plant in St. Paul, Minn.

The Webb plant produces *The Farmer*, the Northwest's leading farm magazine. Besides *The Farmer*, several other magazines and trade publications, telephone directories, seed and other catalogs, books and a large volume of general printing are printed by Webb. To cite two examples of the size of the Webb operation—1000 T. of paper are required to print the Twin City telephone directories and about 50 T. for an average edition of *The Farmer*.

The building housing the firm is a block long and a half block wide.

With this size operation, hundreds of forms are made up every day in the composing room. With the conversion to plastic molds which can be filed and used over again, the firm is realizing a substantial reduction in form storage and type and metal tie-up. Also, the quality of reproduction of the originals afforded by Vinylite has greatly enhanced printing standards both in black and white and four-color process.

Following a practice which originated in eastern plants, Webb's installed its thermoplastic molding press in the composing room. The cleanliness of the process makes this highly feasible, and the result is far less handling and transporting of heavy forms. The accompanying pictures show how thermoplastic molding is being done at Webb's.

Operations in Molding Vinylite for Electrotyping in Plant of Webb Pub. Co., St. Paul, Minn.

Fig. 1.—Proper pre-heating of the form is important and is accomplished by the form being sandwiched between an upper and lower platen electrically heated and thermostatically controlled between 250 deg. and 300 deg. F. It takes about 40 sec. to heat the form to around 185 deg. F. A pyrometer is used to check the form temperature.

Fig. 2.—Softening the plastic is done by placing it on the hot form and again lowering the pre-heated platen. During this cycle the sandwich is again heated to about 185 deg. F., which is the proper molding temperature. Holland cloth is laid over the plastic to prevent sticking. All pre-heating cycles are automatically timed.

Fig. 3.—By pushing buttons, the sandwich is conveyed onto the hydraulic ram and the automatically-timed molding cycle takes place. Pressure to be applied is previously determined and set by the molder according to the nature of the form. Pressure gauges at right accurately indicate high and low pressures instantly. Pressures for Vinylite molding may be up to 10 times lighter than those used for lead, but may vary from 2 T. to 200 T. depending on the nature of the form. Average tonnage is from 50 to 75 T. Press capacity is 200 T.

Fig. 4.—The platens at this end of the press are water cooled and are used for cooling the form to harden and set the mold. After the cooling cycle the platen is raised and the mold is stripped from the form.

Fig. 5.—Vinylite molds are brought to the electrotyping room where they are washed and sensitized to make them conducive to the application of silver spray.

Fig. 6.—Applying highly conductive silver spray to a sensitized mold is done in an enclosed spray booth. The mold is now ready for the electrolytic bath.

Fig. 7.—Vinylite molds can be stripped from the shell without harm to shell or mold. This powered sponge-rubber vibrator does the job quickly and without physical effort upon the part of the operator. Vinylite molds can be used repeatedly for additional electros.

Webb Publishing Company's Vinylite Molding Department

ANPA RESEARCH ACCOMPLISHMENTS TOLD BY FLINT

A CONSTRUCTIVE report concerning progress made during the past year by the Research Department of the ANPA was presented by Research Director C. M. Flint at the convention of the American Newspaper Publishers Assoc., held at the Waldorf-Astoria hotel, New York in April.

A skeletonized summary of the achievements follows:

- Simplification of the automatic stereotype plate routing machine.
- A study of newspaper mechanical operations has been completed. A report will be published soon.
- Printability—A study of what happens when ink meets paper; two progress reports have been submitted by Institute of Paper Chemistry, Appleton, Wis.
- Direct Plate Printing—Research continues. It covers offset-lith in some form, or the use of dry or relief offset. One of the basic requirements for success is the use of photo-composition. Process intended for smaller and some medium size newspapers.
- Work on direct plate printing methods involves development of a light sensitive and tough resist or substitute for cold top enamel which permits engravings to be prepared in 5 min. or less.
- By substituting a suitable glass in the printing frame, the printing down time of cold top images on metal can be reduced 20% or more.
- Developed an instrument for measuring accurately the depth of interstices between halftone dots in photoengravings.
- Another instrument has been designed to indicate the variation from type high on linecasting machine slugs.
- Work is being conducted by using a plastic molding material to permit obtaining normal shrinkage with less mat moisture content, or to obtain far greater shrinkage with normal moisture content. Using the same equipment processed identically, the increase in shrinkage is nearly ½ in.
- Work is progressing on a new method of molding mats which gives the stereotyper control and permits greater fidelity of reproduction.
- Research bulletins—This information service has been maintained; 20-odd bulletins have already been issued.

ANPA

Research and Mechanical Committees and Mechanical Dept. present reports

THE Mechanical Research and the Mechanical Committee, as well as the Mechanical Dept. of the American Newspaper Publishers Assoc. presented their respective reports to the publishers' convention, Waldorf-Astoria Hotel, New York, during the week of April 24. All three reports have been abstracted from the original for publication in *Printing Equipment Engineer*. Highlights of each report, however, remain.

Mechanical Research Committee

During the presentation of the Mechanical Research Committee report, Chairman William Baumrucker jr. observed: "This year productive (research) work has taken place. As is usual in research work, we have found that the first attacks on a problem disclose not the answers, but what is equally more important, more about the problem. Oftentimes this serves to make it look more dufficult but the disclosure of these new facets nonetheless brings the matter nearer solution. We feel we can report we are well along on many important mechanical projects.

"Two new quick answer programs were instituted. One was the development of an engravers' magnifying glass which supplies ready means of examining simultaneously the size of halftone dots being etched and the depth to which they have been etched. The other is a dial micrometer for ready checking of the height of linotype slugs.

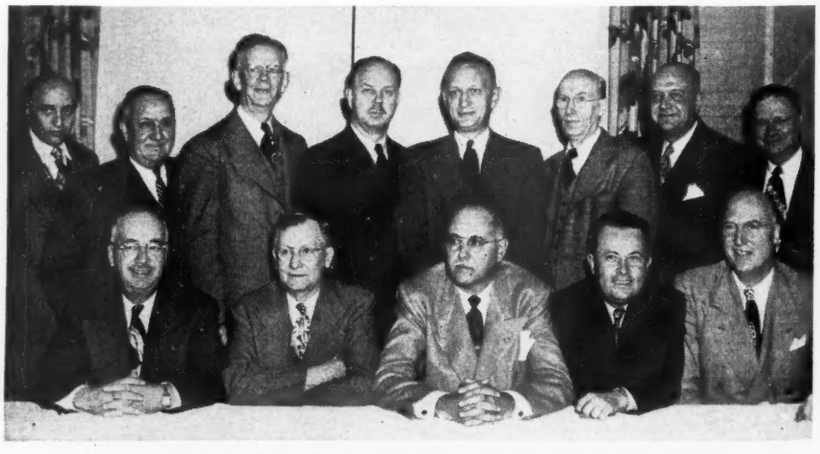
"Details concerning the status of the various projects are as follows.

"**Mat Packing Elimination.** Mats impregnated with plastic according to ANPA procedure were tried in various newspapers with varying results. Investigation showed that methods of scorching as practised in various newspapers were exceedingly important to the results and the no pack mat program broadened out to include the related study of proper scorcher design and procedure. Later in the program, it was found that the method of molding has much to do with the strength of a mat used without packing and the program now embodies a complete study of molding by several new techniques. One off-shoot of this study is that we have come up with a molding blanket compound which will probably permit ordinarily dry mats to provide the high shrinkage needed by many newspapers. If used with regular high shrinkage mats, much more shrinkage than now is possible may be obtained with consequent savings in newsprint cost.

"All indications are that we will be successful in our program to eliminate much of presently required mat packing and that this program will also provide new molding techniques which may be equally, if not more, valuable.

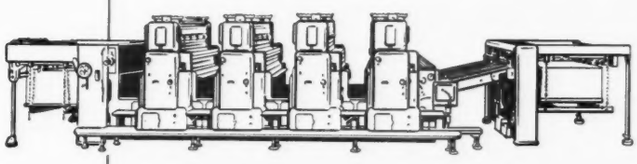
"**Automatic Router.** Work on the automatic router was delayed. Work has progressed, however, and it is quite apparent that, while the original device did function, a vast amount of simplification is possible.

"**Direct Plate Printing.** Direct plate printing involves printing without stereotype plates. This research continues with several new aspects and is considered a program with one of the largest potentials. It is, of course, tied in with the usability of photo-composing machines by the newspaper business. The principal work this past year in direct plate printing involved research upon means of speeding up the photoengraving process. Very important progress was made. Involved was the development of a tough enough resist or substitute for cold top and this has been accomplished. Use of this tough resist apparently permits engraving to be done at the rate of speed required to prepare an entire engraving in less than 5 min. The resist may be an improvement for use with conventional etching methods. Direct plate printing work, as in the fields of offset and relief offset, continues



Sears Honored by Graphic Arts Group—At the recent annual meeting of the Board of Trustees of Graphic Arts Educational Foundation, S. Walter Sears, who has served continuously as President since the Foundation was organized, was presented with a wrist watch. Standing left to right: C. H. Russell, Editor and Publisher, Mankato (Minn.) *Free Press;* H. J. Pattridge, President and Publisher, *Northwestern Miller* Minneapolis; W. O. Lund, President, Lund Press, Inc., Minneapolis; Dr. Randolph E. Haugan, General Mgr., Augsburg Publishing House, Minneapolis; James E. Whiting, President, Whiting Press, Inc., Rochester, Minn.; Olaf Jorgenson, President, Andersen Typesetting Co., Inc., Minneapolis; H. N. Bruce, President, H. N. Bruce Printing Co., Minneapolis, and C. E. Johnston, Director Production Engineering, Graphic Arts Industry, Inc., Minneapolis. Seated left to right: A. R. Otteson, General Mgr., The Pierce Co., Fargo, N. D.; Mr. Sears; President and General Mgr., Mono-Trade Co., Minneapolis; H. F. Shedd, President, Graphic Arts Industry, Inc. and President, Shedd-Brown Mfg. Co., Minneapolis; B. J. Nelson, Business Manager, Eau Claire (Wis.) *Leader* and *Daily Telegram*, and Fred C. Schilplin, President and Publisher, St. Cloud (Minn.) *Daily Times*.

Choice of the Leaders

miehle 76  offset press

I. S. Berlin Press, Chicago, Ill.
Brett Lithographing Company, Long Island City, N. Y.
Calvert Lithographing Company, Detroit, Mich.
Consolidated Lithographing Corporation, Brooklyn, N. Y.
Forbes Lithograph Mfg. Company, Boston, Mass.
Inland Lithograph Company, Chicago, Ill.
Kindred, MacLean & Company, Inc., Long Island City, N. Y.
Livermore and Knight Company, Providence, R. I.
Lutz and Sheinkman, New York City, N. Y.
Newman-Rudolph Lithographing Co., Chicago, Ill.
Price Bros. Label Co., Bridgeton, N. J.
The Progress Lithographing Company, Cincinnati, Ohio
The Providence Lithograph Co., Providence, R. I.
The Regensteiner Corporation, Chicago, Ill.
Rossotti Lithographing Company Inc., North Bergen, N. J.
Snyder and Black, Inc., New York City, N. Y.
United States Printing and Lithograph Co., Mineola, N. Y.
Western Printing & Lithographing Co., Racine, Wis.

The MIEHLE 76 OFFSET PRESS
Unit Construction—
Single and Multicolor
Maximum sheet 52" x 76"
Minimum sheet 28" x 42"
Operating speeds up to 6000 sheets per hour.

The progressive lithographers named above purchased the Miehle 76 Offset Press because it provides the operating and cost-saving advantages necessary to keep them ahead of today's competition—greater sheet area...higher production...easier operation.

Write today for the new descriptive folder.

EXHIBITOR
GRAPHIC ARTS EXPOSITION
CHICAGO · SEPTEMBER 11-23-1950

the Miehle

MIEHLE PRINTING PRESS & MANUFACTURING COMPANY
Builders of Offset Presses for more than a Quarter Century
CHICAGO 8, ILLINOIS

as does our cooperation with the development of photo-composition machines.

"**Printability.** The study of what happens when ink meets paper continues as one of our most important longrange projects. Two progress reports have been rendered by the Institute of Paper Chemistry at Appleton, Wis., who are handling this work for us under contract. These are now being prepared for publication in our ANPA Research Bulletin.

"**Mechanical Process Control.** This study was completed by the Arthur D. Little Co. of Cambridge, Mass., and the report is currently being readied for publication. We feel that it will provide one of the most important outlines that has ever been made of just what can be done with our newspaper mechanical processes.

"**Technical Services.** The bulletin information service has been continued and has made available 24 bulletins up to now.

"**Research Laboratory.** As noted above, the research laboratory has assumed more importance than we had hitherto considered it might have this early in our research work. Work underway in the laboratory encompasses the field of optics, photoengraving, stereotyping and other related fields. We have already outgrown the present quarters in Easton. Plans are being made to correct the situation and likewise to include in the laboratory a narrow width full-scale web newspaper press.

"**Web Tension Device.** A new project has just been approved to conduct experimental work to prove out a new theory of handling a web of newsprint between the roll of paper and the first impression printing couple.

"**New Molding Techniques.** Experimental work is being conducted to prove out an entirely new method of molding, which bids fair to eliminate most of the variables in stereotype molding which have always plagued stereotypers and caused uncontrollable inaccuracies in our stereotype plates.

"A backlog of ideas for research is being built up and programs will be instituted as rapidly as normal growth, time and manpower availability permits.

"The Committee gratefully acknowledges continued interest of the Mechanical Committee and the Mechanical Department of the ANPA in all of our research activities. Their interest and the wholehearted support we have received from the ANPA Board of Directors and membership have been most helpful to our efforts."

WM. BAUMRUCKER, Jr., Chairman

R. R. Cranmer — J. J. Shea
R. E. Lent — J. L. Stackhouse

Report of the Mechanical Committee

"Your chairman has served on the Mechanical Committee for a number of xears—in the capacity of Chairman for the last two years. It has brought home as nothing else could do the vast store of knowledge that is available to help publishers with their mechanical problems.

"A visit to the Department alone is illuminating. Almost the first thing that hits the eye is a large mass of file units filled with information covering the entire gamut of newspaper production. There is, to the left as one enters, a store room with catalogues, booklets and trade journals on every conceivable subject dealing with newspaper mechanical production. There are several bookcases filled with books on mechanical subjects. What is more important, those in the department know what is in the files, the catalogues, and the books, and can make that knowledge available to you.

"Mr. Spitaleri has completed his first full year as Manager of the Department. He wants the Department to justify itself in the eyes of the membership and hs is anxious to be of service."

EDWIN H. EVERS, Chairman

Lyle K. Anderson — Leslie J. Griner
John L. Blake — Shields Johnson
T. A. Corcoran — Stephen J. Lambert
Leven T. Deputy — F. Richard Lilly
Harry Eybers — William F. Lucey
B. F. Garrity — John W. Park
W. E. Gibbons — W. Watson Southam
Earl Weiskittel

Report of the Mechanical Department

"Production analyses, static elimination, GI on-the-job training, stereotype melting pot duct and ventilation systems, copy conveyors, temperature and humidity considerations concerned with newsprint storage, plant expansion and construction, were among the subjects presented in inquiries to the Department which are indicative of the wide range of subjects covered in this individual service.

"The Mechanical Department devotes much time and effort to answering questions from individual members involving all phases of newspaper production.

"A sound Industrial Relations Program as part of the regular Mechanical Conference is bearing fruit. An entire day of the Mechanical Conference will be devoted to Industrial Relations problems this year.

"The Conference Program in Chicago last June covered a wide range of topics in addition to the field of Industrial Relations. It is also interesting to note that the constructive and educational mechanical exhibits have kept pace with the growth of the Conference, and also maintained a record level last year. This has become a valuable and important adjunct to the main Conference, and now represents one of the largest annual mechanical exhibits of printing equipment held in the country.

"A constructive and comprehensive program has been prepared for the Twenty-second Mechanical Conference to be held at the Statler Hotel, Buffalo, N. Y., June 12, 13 and 14.

"The department reached a new high last year in the number of Mechanical Bulletins issued on pertinent and timely subjects of value to the membership. Every effort has been made to learn of new devices and methods which may apply to newspaper printing, and to make the ANPA Mechanical Bulletins the medium for interchange of technical ideas and developments for the mechanical production executives of our members.

"In the Annual Report last year we reported that newsprint waste had been slowly but definitely increasing since 1943-44. This spurred your department on to renewed efforts to emphasize the importance of reducing newsprint waste to a minimum. It is pleasing to report that total newsprint waste figures for the past year indicate that the previous steady increase in waste has been stopped and the general average in all classes has been decreased by an average of .1075 per cent.

"The ANPA-AAAA Joint Committee on newspaper printing has continued to be one of the most active technical committees sponsored by the ANPA in the interest of achieving improved reproduction of advertising in newspapers. The Committee's first report entitled 'Proper Preparation of Art Work for Good Newspaper Reproduction' proved to be an outstanding success.

"The second report covering 'Preparation of Engravings and Duplicate Printing Materials for Good Newspaper Reproduction' was distributed during the last year and met with the same enthusiastic reception afforded to Report No. 1. The third report in this series dealing with 'Suggested Improvements for Handling of Newspaper Advertising Printing Materials' will be presented at the Mechanical Conference in June. This will then be distributed widely throughout the newspaper and advertising and allied businesses.

"The Joint Committee has spent considerable time and effort in the preparation of a comprehensive report on Color Comic Advertising Reproduction which it is hoped will be ready to present this fall. A similar program with rotogravure is now being prepared."

VERNON R. SPITALERI, Manager

Interchemical To Move

Interchemical Corporation will complete its plan to consolidate all major executive offices and staff functions in one building by the middle of this summer. The firm will occupy 4½ floors of the Fawcett Bldg. located at 44th St. and Sixth Ave. in New York, N. Y.

Acme Moves

Acme Press Blanket Co. moved on May 1 to its new and larger quarters in Walworth, Wis., which is 65 miles from Chicago. The firm is enabled to by-pass congested movement of merchandise in the metropolitan area, which in turn, it is stated, will insure more speedy service to customers. Phone in Walworth is No. 29.

Charlton Renews Lease

A further lease has been obtained by F. M. Charlton Co., Inc., New York, N. Y., from Trinity Church covering the firm's present location at 345 Hudson St. To permit expansion, the book binding concern has also arranged for the taking of additional space in a proposed extension of the building in the event that such space becomes available.

Text Matter?

DISPLAY HEADS?

These Super-Range Linotypes Set Both With Equal Speed and Ease!

6 point Bell Gothic
Text and display sizes keyboarded with equal ease and economy on

7 point Corona
Text and display sizes keyboarded with equal ea

8 point Times Roman
Text and display sizes keyboarded with equal ea

10 point Caledonia
Text and display sizes keyboarded with eq

12 point Baskerville
Text and display sizes keyboarded wi

14 point Garamond Bold No. 3
Text and display sizes keyboarded

18 point Bodoni Bold
Text and display sizes ke

24 point Spartan Heavy
Text and display siz

28 point Erbar Bold Condensed
Text and display sizes k

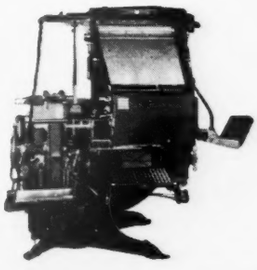
30 point Memphis Medium
Text and displ

36 point Caledonia Bold
Text and disp

48 point Erbar Bold Condensed
Text and disp

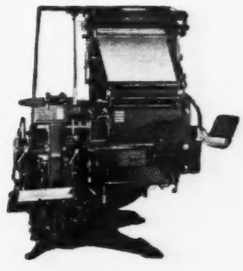
60 point Erbar Light Condensed
TEXT AND DI

Straight matter . . . display heads . . . they're all the same to these versatile Linotypes! Yes, both text and display material are keyboarded quickly, smoothly, economically; hand-setting can be eliminated entirely! And just look at the range of type sizes they handle! That's because these machines use the widest magazines of any type-setting machines—35% wider than standard magazines. These machines are so flexible that one of them can handle all the composing-room needs of the small shop. They're mighty productive, too . . . enabling the multi-machine establishment to turn out a large volume of work on schedule, and at a profit. Talk over your own requirements with your Linotype representative today.



SINGLE-DISTRIBUTOR LINOTYPES

MODEL 33 with one to four wide 90-channel magazines permits keyboarding type faces through normal 24 point or larger in condensed sizes. Wide 72-channel magazines increase this capacity to normal 36-point faces and largest condensed faces. **MODEL 34** Linotype is identical to Model 33 with the addition of one, two, three or four auxiliary magazines.



MIXER LINOTYPES

MODEL 35 is available with two or four wide 90-channel magazines or combinations of wide 72- and wide 90-channel magazines. In addition to mixing matrices from adjacent magazines, this machine accommodates faces through normal 36 point and largest condensed sizes. **MODEL 36** has the additional capacity of two or four auxiliary magazines.

LINOTYPE
TRADE MARK

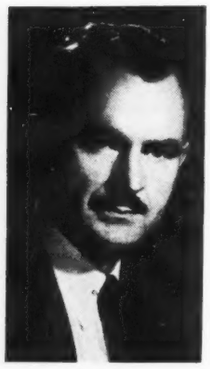
LEADERSHIP THROUGH RESEARCH

MERGENTHALER LINOTYPE COMPANY, 29 Ryerson Street, Brooklyn 5, New York

Set in Times Roman, Poster Bodoni Compressed, the Spartan Family and Indicated Faces.

EXECUTIVE Cs

Announcement has been made that Dr. R. M. Schaffert will now serve as Research Consultant at the Graphic Arts Research Div. of Battelle Memorial Institute. Dr. Schaffert will devote the major



Dr. R. M. Schaffert, named Research Consultant, Graphic Arts Research Div., Battelle Memorial Institute.

portion of his time to the technical phases of research projects relating to the Graphic Arts field, and to consultation on printing processes and technical problems. Also announced is the addition of William T. Reid to the administrative staff of the Graphic Arts Div. Mr. Reid has been appointed Supervisor of the division and will be responsible for the supervision and management of Graphic Arts research projects.

Dr. Paul J. Hartsuch, formerly a research chemist with the Lithographic Technical Foundation has joined the International Printing Ink Div. of Interchemical Corp. as Lithographic Service Engineer.

Victor E. Fishburn was elected President of the Burgess Cellulose Co. at a meeting of the board of directors held on April 2. He succeeds Dr. A. W. Schorger, who continues his connection with the company in a consulting capacity and as a director. Mr. Fishburn has been vice president of Burgess for some time and is well known in the newspaper industry.

R. W. Smith, President of International Printing Ink Div. of Interchemical Corporation, died suddenly in Ft. Myers Beach, Fla., on April 11. Mr. Smith joined IPI in 1931 as Chicago branch manager and later was elected a vice president and appointed Western District manager of the Division. In 1944 he was elected president and made his headquarters in New York. He is survived by his wife and two sons, Roderick W., jr., and Robert P. Smith.

Robert S. Bates, President of the Pennsylvania Newspaper Publishers' Association, has announced the appointment of Joseph G. Camp, jr., to the vacant post of Associate Manager. The vacancy was created by the recent promotion of Theodore A. Serrill to the position of General Manager.

William J. Stevens has been appointed Assistant Manager of Eastern Offset Press Sales of the Miehle Printing Press & Mfg. Co., according to joint announcements made by Carlton Mellick, Vice President in Charge of Sales and William Hogan, Eastern District Manager of the Miehle

Wm. J. Stevens, Asst. Mgr., Eastern Offset Press Sales, Miehle Printing Press & Mfg. Co.

company, and Walter E. Soderstrom, Executive Vice President of the National Assoc. of Photo-Lithographers. Mr. Stevens was formerly executive secretary of both the NAPL and the Metropolitan Lithographers Assoc. He was also recently plant superintendent of Edward Stern & Co.

Appointment of Don Grant as Chemical Representative for Harris-Seybold Co. in Chicago and the Midwest has been announced by A. S. Holford, Chemical Sales Manager. Mr. Grant joined Harris-Seybold in 1945. He will make his headquarters at 555 W. Washington Blvd.

Neil P. Cullom has been elected Chairman of the board of directors of R. Hoe & Co., Inc., succeeding H. M. Tillinghast, who retired because of ill-health, Joseph L. Auer, president, announced recently.

Gerald W. Hunter (left) and Willis C. Hunter, elected vice presidents of Matrix Contrast Corp. at the recent annual meeting. Mr. G. W. Hunter will continue as Eastern Manager and Mr. W. C. Hunter will continue as Midwestern Manager of the firm.

Jack Faris, Western Manager of Matrix Contrast Corp., was recently elected a vice president of the company. He will continue to serve in his present capacity and territory.

John D. Camps has been named General Sales Manager of the Overseas Div. of Sun Chemical Corp. He joined Sun Chemical in 1946 as assistant export sales manager.

To Find the Right Man

The 10,000 mechanical and production executive readers of *Printing Equipment Engineer* are vitally interested in improving production methods. They prove that by reading *Printing Equipment Engineer*. Your Help Wanted Ad in the *Printing Equipment Engineer* Classified Section will bring response from highly qualified men. Rates on page 75.

Edwin W. Shaar, appointed Art Director of Intertype Corporation. He was formerly associated with Lanston Monotype Machine Co. as assistant to Sol Hess, Art Director. Mr. Shaar is the designer of Flash, Flash Bold, Valiant and lower case Czarin type faces.

Conference Dates (*with organization names and principal officers*)

American Photoengravers Association — 1950 Convention to be held at Chalfonte-Haddon Hall Hotels, Atlantic City, N. J., October 9, 10 and 11. W. K. James, President; Frank J. Schreiber, Executive Secretary, 166 W. Van Buren St., Chicago 4, Ill.

ANPA Mechanical Conference—1950 Conference to be held at Hotel Statler, Buffalo, N. Y., June 12, 13, and 14. Chairman of the Committee, Edwin H. Evers, Production Manager, St. Louis *Globe-Democrat*. Manager ANPA Mechanical Dept., Vernon R. Spitaleri, 370 Lexington Ave., New York 17, N. Y.

Fifth District Craftsmen's Conference—1950 Conference to be held at Commodore Perry Hotel, Toledo, Ohio, June 16 and 17. District Representative, Alvin F. Friedrich, 730 E. Washington Blvd., Indianapolis, Ind.; Deputy District Representative, John Morehouse, c/o Harris-Seybold Co., 4510 E. 71st St., Cleveland 5, O.; John E. Frisbie, The Blade Printing & Paper Co., Monotype Dept., Toledo, Ohio; Secretary-Treasurer, John Fisher, Superintendent, Reardon-Parshall Co., 466 Larned St., N.W., Detroit, Mich.

Great Lakes Newspaper Mechanical Conference—1951 Conference to be held in South Bend, Ind., January 7, 8 and 9. President, LeRoy Coates, Pressroom Supt., Grand Rapids (Mich.) *Press;* Secretary, Al. P. Oberg, Flint (Mich.) *Journal;* Chairman, Mfrs. and Suppliers Committee, Clay Wellman, Ludlow Typograph Co., 2032 Clybourn Ave., Chicago 14, Ill.

Illinois Newspaper Mechanical Conference—1950 Conference, Hotel Louis Joliet, Joliet Ill., September 23 and 24. President Arthur Kramer, Joliet (Ill.) *Herald-News;* Secretary-Treasurer, William L. Augspurger, Peoria (Ill.) Newspapers, Inc.

Intl. Assoc. Electrotypers & Stereotypers — 1950 convention to be held aboard the ship Queen of Bermuda and the closing session ashore at the Princess Hotel, Bermuda. Ship departs from New York, N. Y., Saturday, October 28, 3 p.m. Return trip, boat docks in Bermuda on Friday, November 3 at 9 a.m. A. P. Schloegel, Executive Secretary, 701 Leader Bldg., Cleveland 14, Ohio.

International Association of Printing House Craftsmen—1950 Convention to be held at Hotel Stevens, Chicago, September 10, 11, 12 and 13. President, Russell J. Hogan, Wilson H. Lee Co., Orange, Conn.; Executive Secretary, Pearl E. Oldt, 18 E. Fourth St., Cincinnati 2, Ohio.

International Typographic Composition Association—1950 convention, Chicago, Hotel Sheraton, Sept. 14, 15 and 16. President, Frederick H. Lutz, Lutz Composition, 93 Centre St., Brockton 35, Mass.; Frank M. Sherman, Executive Director, 1015 Chestnut St., Philadelphia 7, Pa.

Iowa Daily Newspaper Mechanical Conference — 1950 meeting in Ottumwa, Ia. President, Howard (Red) Lee, Composing Room Supt., Ottumwa (Ia.) *Courier;* Secretary-Treasurer, Paul F. Kamler, Mechanical Supt., Clinton, (Ia.) *Herald*.

Kansas Newspaper Mechanical Conference — 1950 Conference to be held at Kansan Hotel, Topeka, Kan., September 30 and October 1. President, G. M. Harris, Salina (Kan.) *Journal;* Secretary-Treasurer, Larry Miller, 701 Jackson St., Topeka, Kan.

Lithographers National Association — 1950 Convention to be held at Edgewater Beach Hotel, Chicago, September 7, 8 and 9. President, Randolph T. Ode, President, The Providence Lithograph Co., Providence, R. I.; Executive Director, W. Floyd Maxwell, 420 Lexington Ave., New York 17, N. Y.

National Association of Litho Clubs — Executive Secretary, William J. O'Holleran, Assistant Supt., Myercord Co., 5339 W. Lake St., Chicago 44, Ill.

National Association of Photo-Lithographers — 1950 Convention to be held at The Shoreham, Washington, D. C., October 25, 26, 27 and 28. Executive Vice President, Walter E. Soderstrom, 317 West 45th St., New York 19, N. Y.; Executive Secretary, William J. Stevens, 317 West 45th St., New York 19, N. Y.

National Graphic Arts Education Association — 1950 convention, Chicago, Sherman Hotel, Sept. 21, 22 and 23. John G. Henderson, President; Fred J. Hartman, Educational Director, 719 Fifteenth St., N. W., Washington 5, D. C.

National Graphic Arts Exposition—International Amphitheatre, Chicago, September 11 to September 23, 1950. Headquarters for National Graphic Arts Exposition, Inc., at Room 802, 105 W. Monroe St., Chicago. President, A. E. Giegengack; Asst. to President, Russell H. Herrell; Secretary, S. Frank Beatty, Graphic Arts Assoc. of Illinois, Chicago. Exposition hall closed on Sunday, Sept. 17. Open all other days from 1 p.m. to 10 p.m.

National Printing Equipment Association, Inc. — Palmer House, Chicago, September 20, 1950. Directors meeting, 10 a.m.; meeting of members, 2 p.m. President, R. Verne Mitchell, Harris-Seybold Co., 4510 E. 71st St., Cleveland 5, O.; James E. Bennet, Secretary, 140 Nassau St., New York 7, N. Y.

New England Mechanical Conference — 1950 Conference to be held at Hotel Statler, Boston, October 28 and 29. President, Arthur M. Kohler, Production Mgr., Waltham (Mass.) *News-Tribune;* Secretary-Treasurer, Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day*.

Northwest Mechanical Conference — President, Joseph J. Cory, Chief Composing Room Machinist, St. Paul (Minn.) *Dispatch* and *Pioneer Press*. Secretary-Treasurer, Ralph Carson, Dunwoody Industrial Institute, Minneapolis, Minn.

Pacific Mechanical Conference—1950 Conference to be held at Fairmount Hotel, San Francisco, May 6, 7 and 8. President, Fred Gross, Mechanical Supt., San Francisco *Chronicle;* Vice President for the Pacific Northwest, Harry Hale, Production Mgr., Portland (Ore.) *Oregonian;* Secretary for the North, Edw. N. Conley, color press foreman, San Francisco *Chronicle;* Secretary for the South, Fred J. Moyer, Los Angeles *Daily News*.

Pacific Society of Printing House Craftsmen—Multnomah Hotel, Portland, Ore., July 21-22. Rudolph Ernst, President, 3664 S. E. Center St., Portland 2, Ore.; Secy.-Treas., C. B. Park, 102 N. W. 9th Ave., Portland, Ore.

PNPA-NJPA Joint Mechanical Conference — Date and place of 1951 Conference to be announced later. Conference director, Theodore A. Serrill, PNPA Manager, Telegraph Bldg., Harrisburg, Pa.

Printing Industry of America — 1950 convention, Chicago, Palmer House, Sept. 17, 18, 19 and 20. James R. Brackett, General Manager, 719 Fifteenth St. N. W., Washington, D. C.

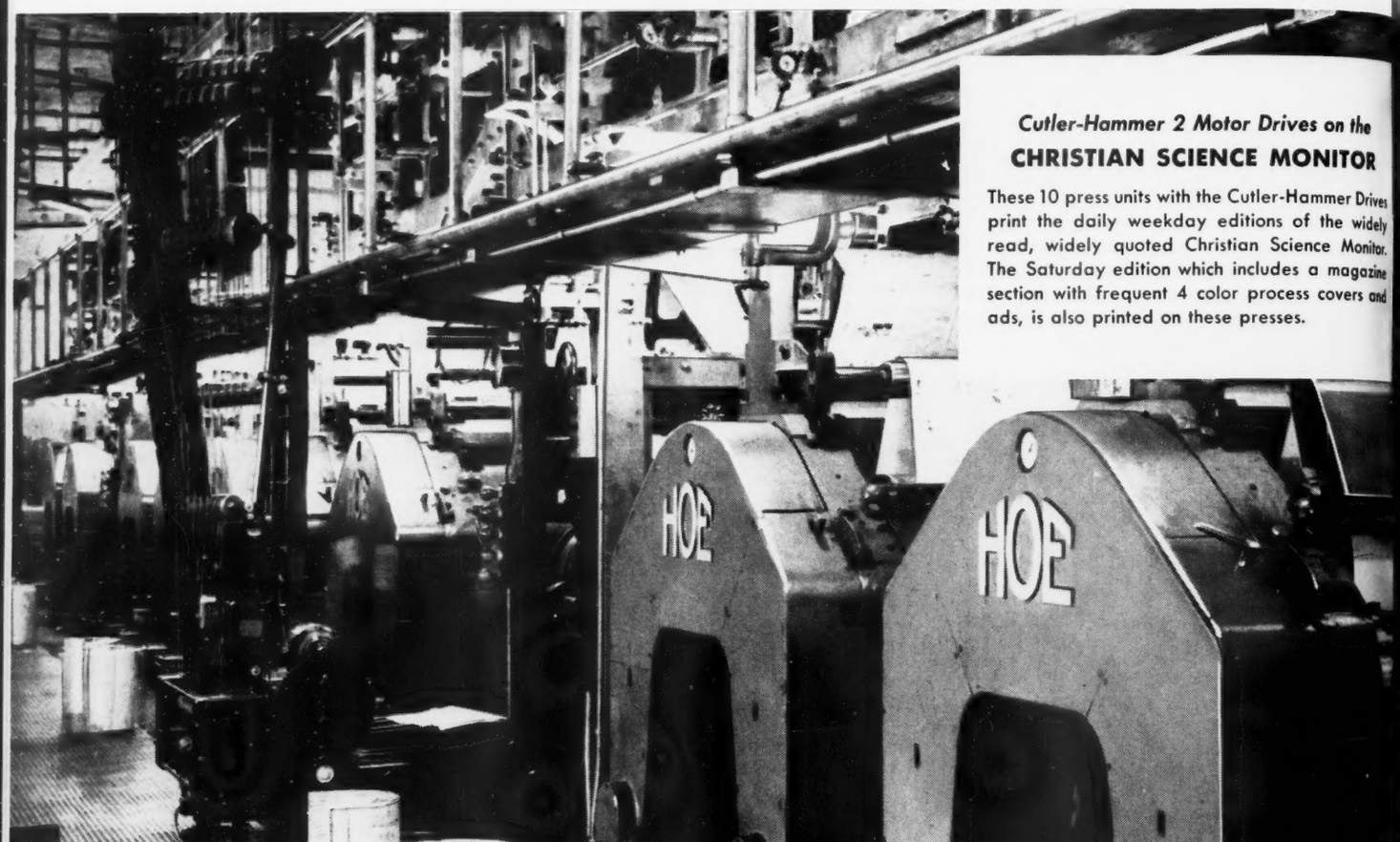
Research and Engineering Council — Next meeting at Milwaukee Athletic Club, Milwaukee, Wis., Thursday, June 22, to be followed by trip to Institute of Paper Chemistry, where session will be held in Appleton, Wis., on Friday, June 23. Chairman, Frank F. Pfeiffer, Reynolds & Reynolds Co., 800 Germantown Ave., Dayton, O.; Secretary, Bernard Taymans, 719 Fifteenth St., N.W., Washington 5, D. C.

SNPA (Eastern Div.) Mechanical Conference — 1950 Conference, Tutwiler Hotel, Birmingham, Ala., August 28 and 29. Chairman, L. H. Pickens, Mechanical Supt., Greenville (S. C.) *News-Piedmont;* Secretary, Tom Tanner, c/o SNPA, P.O. Box 1569, Chattanooga 1, Tenn.

SNPA (Western Div.) Mechanical Conference—Secretary, C. W. Tabb, 621 Texas Bank Bldg., Dallas, Tex.; Chairman, Manufacturers' and Suppliers' Committee, William Sefton, c/o Howard Flint Ink Co., 1010 Lockwood Dr., Houston 20, Tex.

Technical Association of the Lithographic Industry — (TALI)—President, Michael H. Bruno, Lithographic Technical Foundation, Glessner House, 1800 So. Prairie Ave., Chicago 16, Ill. Secretary-Treasurer, Geo. W. Wilhelm, 814 N. East Ave., Oak Park, Ill.

→ RECENT EVENTS TELL YOU WHY HERE'S YOUR SOUNDEST INVESTMENT



Cutler-Hammer 2 Motor Drives on the

CHRISTIAN SCIENCE MONITOR

These 10 press units with the Cutler-Hammer Drives print the daily weekday editions of the widely read, widely quoted Christian Science Monitor. The Saturday edition which includes a magazine section with frequent 4 color process covers and ads, is also printed on these presses.

Outstanding Features of C-H 2 Motor Press Drives

1 ***New Drum Type Control***—From start to printing speed in 20 seconds. 90 definite speed points give desired step by step control. No shocks or jerks. Web breaks eliminated. Smooth transition to main motor. Web accelerated in perfect unison with press. Packaged control, factory wired and assembled. Cuts installation costs and space requirements. Unit assemblies easy to remove and replace. 18 interlock circuits.

2 ***Magnetic Clutch***—Standard equipment. Replaces mechanical ratchets and pawls with smooth magnetic operation. Improves jogging. Gives pressman far better control of plate cylinder position. Fewer jogging operations needed. With new drum type control, it sets new standard of smooth starting. Eliminates transition trouble. Permits use of smaller main motor. Eliminates main motor brake.

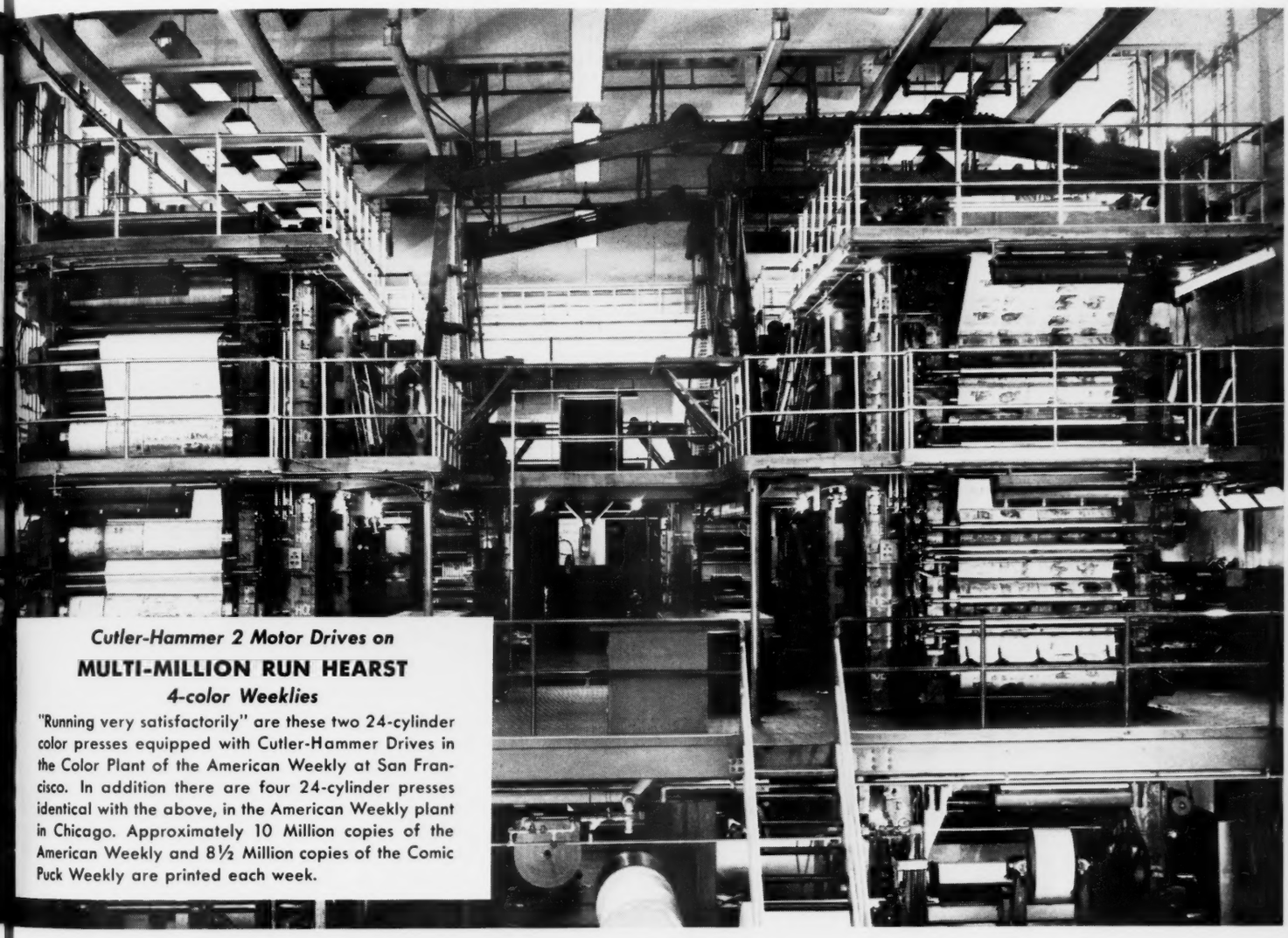
3 ***Components of proven design*** in common use everywhere. Easy to understand, service, maintain. No complications. C-H simplicity extends throughout, eliminating troublesome elements. This is the most efficient, lowest cost, most economical to install, to run, and to maintain of all drives.

CUTLER-HAMMER
PRESS DRIVES
C-H

4 ***In-line mounting*** reduces width of drive and increases accessibility for inspection and maintenance. Where more floor space is required, overhead suspension mounting is available.

5 Cutler-Hammer Medallion identifies an experience in the control of electric motors that has no counterpart in American industry.

The record of recent events in the publishing field *familiar to all* tells why a Cutler-Hammer Press Drive is the soundest investment you can make. Its design is so modern it will give you any capacity you will need in the predictable future. Its design is so intelligent that you gain this performance with simple, familiar, uncomplicated, easy to understand components, and with utmost economy in initial purchase, installation, in running and upkeep. And because of these factors its realizable asset value is high. This has been the story in the past when American and foreign publishing plants installed more Cutler-Hammer than any other press drive. It is the story today with major factors in the field making heavy investments in Cutler-Hammer equipment. It is only logical that this is so because Cutler-Hammer Drives *are* the very ingredients of efficiency, economy and dependability. This is *demonstrable.* Ask for a representative to call. CUTLER-HAMMER, Inc., 1460 St. Paul Ave., Milwaukee 1, Wis.

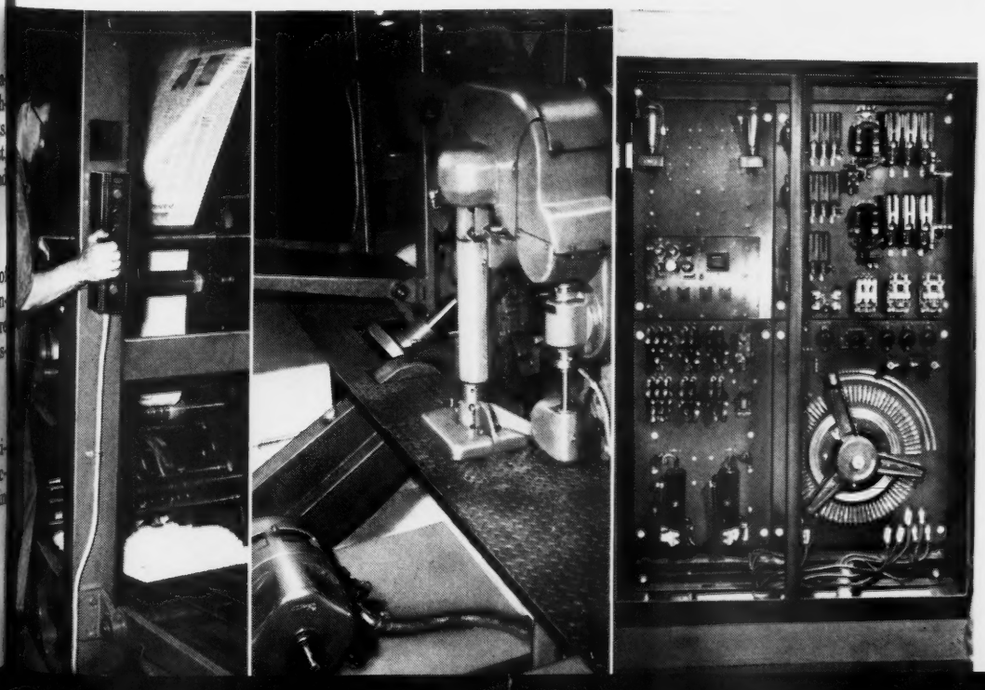


Cutler-Hammer 2 Motor Drives on

MULTI-MILLION RUN HEARST

4-color Weeklies

"Running very satisfactorily" are these two 24-cylinder color presses equipped with Cutler-Hammer Drives in the Color Plant of the American Weekly at San Francisco. In addition there are four 24-cylinder presses identical with the above, in the American Weekly plant in Chicago. Approximately 10 Million copies of the American Weekly and 8½ Million copies of the Comic Puck Weekly are printed each week.



***Cutler-Hammer* Proved**

ELECTRONIC DRIVE

on Goshen, Ind., Newspaper

Cutler-Hammer engineers have developed a safe, practical, modern and dependable electronic single motor drive for tubular type newspaper presses and small magazine presses. Such a drive is now in operation at Goshen, Indiana, printing the Goshen News Democrat. This drive has proved so successful in utilizing the characteristic advantages of electronics that it is being copied elsewhere.

LATEST LIST OF EXHIBITORS

National Graphic Arts Exposition

Twenty-six additional exhibitors have been added to the list of exhibiting firms at the National Graphic Arts Exposition, according to an announcement released April 20 by the Exposition management. The Exposition will be held in Chicago's International Amphitheatre on September 11 to 23 inclusive.

Termed *The World's Greatest Temporary Printing Plant*, the value of equipment to be exhibited during the two weeks of the Exposition will amount to approx. $10 million. A personnel force totaling 2000 will be on hand to demonstrate the equipment and materials to the many thousands who will be in attendance. Admission to the Exposition will be by guest ticket only. Approx. one-half million guest tickets will be supplied to Exhibitors for distribution to invited guests.

The Exposition will form a great educational center for men and women of the Graphic Arts industries. It will afford the opportunity of meeting and talking with inventors who are responsible for machines and devices which bear their name. Mechanical and industrial engineers and consultants will be present to advise on production problems confronted in printing establishments. Names of exhibiting companies which have been released by the Exposition management are as follows:

Acme Steel Co.
Aigner, G. J., Co.
American Evatype Corp.
American Printer, The
American Roller Co.
American Steel Chase Co., The
American Type Founders Sales Corp.
American Wood Type Mfg. Co.
Amsterdam Continental Type and Graphic Equipment Co.
Artype, Inc.

Babcock Printing Press Co.
Banthin Engineering Co.
Battelle Memorial Institute
Baum, Russell Ernest
Beal, Jack, Vertical Service
Bingham Brothers Co.
Bingham's, Sam'l, Son Mfg. Co.
Bookbinding and Book Production
Book Manufacturers' Institute
Bourges, Inc.
Brackett Stripping Machine Co.
Brandtjen & Kluge, Inc.
Bunn, B. H., Co.

Callaway Mills, Inc.
Challenge Machinery Co., The
Chandler & Price Co., The
Chapman Electric Neutralizer Co.
Chemco Photoproducts Co., Inc.
Chicago Steel & Wire Co.
Chicago Typographers Assoc.
Cline Electric Mfg. Co.
Commercial Controls Corp.
Consolidated Photo-Engravers & Lithographers Equipment Co.
Continental Printing Equipment Co.
Cottrell, C. B., & Sons Co.
Coxhead, Ralph C., Corp.
Craftint Mfg. Co., The
Craftsman Line-Up Table Corp.
Cutler-Hammer, Inc.

Dayton Rubber Co., The
Dexter Folder Co.
Dexter Press, Inc.
Dixie Type & Supply Co.
Doyle, J. E., Co., The
Dutro, Orville, & Son, Inc.

Economy Printers Products
Electric Boat Co. Printing Machinery Div.
Electro-Coatings, Inc.
Electro-Copyst, Inc.
Electrographic Corporation

Fairchild Camera & Instrument Corp.
Falco Corporation, The
Force, William A., & Co., Inc.
Fototype, Inc.

Gane Brothers & Lane, Inc.
Gegenheimer, William
General Binding Corp.
General Electric Co.
General Research & Supply Co.
Gibson Machine Mfg. Co.
Goss Printing Press Co.
Graeber Stringing & Wiring Machine Co.
Graphic Arts Assoc. of Illinois, Inc.
Graphic Arts Equipment Co.
Graphic Arts International Corp.
Graphic Arts Monthly

Hamilton Mfg. Co., The
Hamilton Tool Co., The
Hammermill Paper Co.
Hammond Machinery Builders
Harris-Seybold Co.
Heinrich, H. H., Inc.
Hewson, The John, Co.
Hyre Electric Co.

Ideal Roller Co.
Imperial Type Metal Co.
Inland Printer, The
Intl. Assoc. of Printing House Craftsmen, Inc.
Intl. Screen Process Printing Assoc.
International Dry Spray Corp.
Intl. Typographic Composition Assoc.
Intertype Corporation

J C M Machine Co.
Jonas, Myron, Co.
Jones, C. Walker, Co.

Kemp, William M., Co.
Kimble Electric Div., Miehle Printing Press & Mfg. Co.
Kleen-Stik Products, Inc.
Korn, William, Inc.

Lake Erie Engineering Corp.
Lanston Monotype Machine Co.
Lawson, E. P., Co., Inc.
Lawter Chemicals, Inc.
Lester & Wasley Co., Inc.
Lewis & Co., A. F., of New York
Linotype Parts Co., Inc.
Lithographers' National Assoc.
Lithographic Technical Foundation
Lockwood's, Inc.
Ludlow Typograph Co.

Macbeth Arc Lamp Co.
Mann, George, & Co., Ltd.
Mark Specialty Co.
Mercury Mfg. Co.
Mergenthaler Linotype Co.
Miehle Printing Press & Mfg. Co.
Miller-Lauffer Printing Equipment Co.
Miller Printing Machinery Co
Mohr Lino-Saw Co.
Monomelt Co., Inc., The
Moore, Kenneth J., & Co.
Morrison Co., The
Murray Engraving Co.

National Assoc. Printing Ink Makers, Inc.
National Bundle Tyer Co.
National Graphic Arts Education Assoc.
National Lead Co.
National Safety Council
New Era Mfg. Co.
Nolan Corporation
Northwest Paper Co.
Nu-Arc Company
Nygren-Dahly Co.

Oxford Paper Co.
Oxy-Dry Sprayer Corp.

Paasche Airbrush Co.
Paper & Paper Products
Parsons & Whittemore, Inc.
Pearce Development Co.
Plastic Binding Corp.
Potdevin Machine Co.
Printing Equipment Engineer
Printing Industries Equipment, Inc.
Printing Industry of America, Inc.
Printing Machinery Co., The
Printing Magazine
Printing Trades Blue Book
Printing Year Book & Almanac
Printrade Machinery Corp.
Production Yearbook
Process Color Plate Co., Inc.

Rapid Roller Co.
Rathbun & Bird Co., The
Regency Thermographers
Richards, J. A., Co.
Riehl Galley Lock Co
Roberts & Porter, Inc.
Roberts Numbering Machine Co.
Robertson, R. R., Co.
Rosback, F. P., Co.
Rouse, H. B., & Co.
Ryan, E. G., & Co.

St. Regis Sales Corp.
Schaefer Machine Co.
Seal-O-Matic Machine Mfg. Co.
Sheridan, T. W. & C. B., Co.
Smythe Mfg. Co., The
Soldans, Ltd.
Southworth Machine Co.
Spiral Binding Co., Inc.
Stereotex Machinery Co.
Stimpson, Edwin, B., Co.
Stone Printing Equipment, Ltd.
Streamline Metal Feeder Co.
Strong Electric Corp.
Super Speed Printing Press
Sussin Mfg. Co.

Taft Contracting Co.
Taylor Machine Co.
Technical Trade School
Tenak Products Co.
Thompson Cabinet Co.
Thomson-National Press Co., Inc.
Tompkins Printing Equipment Co.
Turner Printing Machinery, Inc.

United American Metals Corp.
U. S. Rubber Co.

Vandercook & Sons, Inc.
Verner, B., & Co.
Virkotype Corporation

Walden Sons & Mott, Inc.
Waltcn Laboratories, Inc.
Weber, Martin J., Studio
Wesel Mfg. Co.
Western Newspaper Union
Wetter Numbering Machine Co.
Wild & Stevens, Inc.
Williamson & Co., Inc.

R&E Council to Meet

The Research and Engineering Council of the Graphic Arts Industry will hold its third semi-annual membership and business meeting in Milwaukee on June 22, announces Frank F. Pfeiffer, chairman of the Council. The Council consists of 250 members, including 28 trade associations and groups. Membership and meetings are open to any individual, company, or association identified with or interested in Graphic Arts research.

The meeting will be held in the Milwaukee Athletic Club, starting at 10:30 a.m. Thursday, June 22, with luncheon to follow. At the conclusion of the day's meeting, the group will leave by bus for Appleton, where overnight accommodations have been arranged.

On the day following the business meeting, the group will visit the Institute of Paper Chemistry at Appleton, Wis., and the research laboratories of the Kimberly-Clark Corp., paper manufacturers in Neenah, Wis.

Major items on the Council's agenda are a discussion of a proposed overall Technical Society of the Graphic Arts; discussion of the recent incorporation of the Council; and distribution of the Council's second annual report on research projects in the Graphic Arts industry.

The Council's Publications Committee will meet on June 20, two days prior to the membership meeting, to discuss the proposed publication of a journal of technical abstracts. The Planning and Executive Committees of the Council will meet on June 21.

Anyone desiring to attend the June 22 meeting or the Appleton and Neenah visitations the next day should write to the Research and Engineering Council of the Graphic Arts Industry, 719 Fifteenth Street, N.W., Washington 5, D. C.

New Bausch & Lomb Div.

Acquisition of the Riggs Optical Co. of Chicago, was announced recently by Bausch & Lomb Optical Co. Joseph F. Taylor, President of Bausch & Lomb, said the Chicago firm will be known as Central Div., Bausch & Lomb Optical Co., with headquarters at 18 S. Michigan Ave.

Research Developments and Engineering Programs

A comprehensive listing of research and engineering programs in the Graphic Arts industries is now under way. The report will be published in June. The first listing published in bulletin form last year contained reports of research and engineering projects. There was a total of 156 research projects reported. The first report, published in June 1949 brought many complimentary letters. Collating the information is under the direction of the Research and Engineering Council of the Graphic Arts Industry, Room 413, 719 Fifteenth St., N.W., Washington 5, D. C. Listings are solicited from printing plants of all kinds, equipment and supplies manufacturers, and from organizations and societies interested in research and plant engineering. If your company has not received the explanatory sheet, the specimen page from the 1949 report, and the two report blanks (one for you to retain), you may have them by sending your request to the Council at the address given above.

Visit Laboratory

Forty-four members of a class from the Chicago Lithographic Institute were visitors recently at the new Vandercook Research laboratory. A highlight of the visit was a demonstration of the Vandercook offset proof press. William O. Morgan, Educational Director of the Institute, and other faculty members accompanied the class.

NSC Address Change

The National Safety Council has announced that new headquarters for the organization are located at 425 N. Michigan Ave., Chicago 11, Ill. New telephone number is WHitehall 4-4800.

Please take a look at your address on the wrapper in which *Printing Equipment Engineer* is sent to you at your place of employment. If it isn't correct, please tell us about it on a postcard.

Take a Load Off
Your Power Bill...
USE FEATHERLITE FURNITURE AND BASE
Throwing a ton or two of dead weight up and back on a flat bed press puts needless strain on your equipment...increases power bills. Lifting forms loaded with heavy furniture and base makes unnecessary work of printing operations. Your lock-up man, pressmen and helpers will appreciate the advantage of using Featherlite furniture and base made of a special magnesium alloy with the strength of iron but only one-fourth the weight.
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BOOKS
RECEIVED

Ninth Production Yearbook

THE *Ninth Graphic Arts Production Yearbook* for the printing, publishing and advertising fields is now available through *Printing Equipment Engineer*. The ninth volume supersedes other printings of this reference book to bring the printing executive up-to-date on processes, equipment, supplies, methods and procedures.

Some of the figures applicable to this volume include a total of 918 pages, 136 pages in color, 4000 subjects listed in the index, 350 authors and authorities, 156 articles, charts, visualizers, etc., 196 samples of kinds of paper, 659 editorial illustrations, 190 pages of inserts, and 1500 type face specimens in one-line display showing, in complete alphabets or in paragraph form.

Some of the developments in the Graphic Arts which are described and explained, include Magnet Type, ink isotopes, Weiss-Speedry enclosed ink fountain, centrifugal pressure casting of electrotypes, Xerography, McCorquodale process, magnesium plates, Fairchild engraving process, Fotosetter, Colotone and Fluorescent water colors. Also Flexichrome, infrared drying, bimetallic plates for offset, Brunak process, copper colorimeter, ATF-Hadego photocompositor, Perfect-style binding, power and mechanical silk screen printing presses, Rotofoto, DSJ Varityper, Flexowriter, Lithomat's Lumitype machine for photo text composition, and many others.

A feature of the volume is a Color Visualizer which shows 1079 different colors obtained in four color printing by varying the tone strength of the plates used for each color. The tint strength used for each plate is included.

The paper section includes a sheaf of variegated samples of kinds of papers prepared in cooperation with paper manufacturers showing different weights, finishes, and such special characteristics as grain, wire and felt side, deckle edge, watermarks, etc.

Another feature is a pull-out, gatefold, diagrammatic, step-by-step analysis of letterpress, lithography and gravure from preparation of art and copy to the final printed piece. Each step of each process is shown in relation to a comparable step in the other two processes. A Process Visualizer includes 18 different paragraphs of type and five different kinds of artwork reproduced in letterpress, gravure, lithography and photogelatine.

For the first time, the side notes of the standard Photoengravers' Scale are explained.

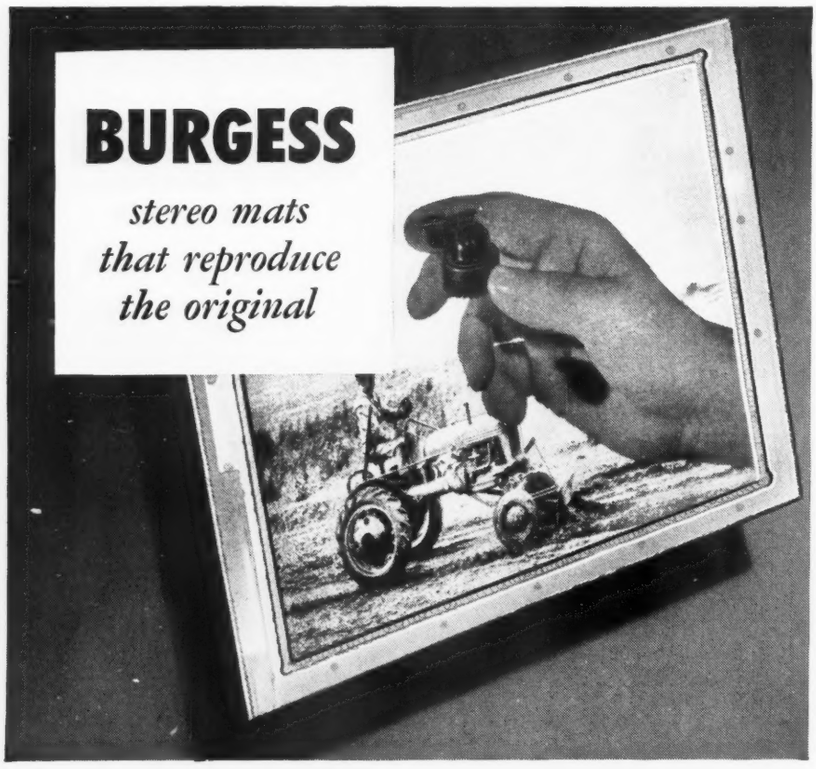
Outstanding U. S. designers give their own individually expressed interpretation of the theme of this edition of *Production Yearbook*, namely: *Printing—the art preservative of all the arts*. Reproductions of work of modern artists who have influenced Graphic Arts design are also included.

The Type Visualizer has grown from its start of 72,000 possible combinations of text and display faces to a total of 144,000. This device enables the reader to see the effect obtained by combining any one of more than 1000 different display type faces with any one of 144 text type paragraphs.

A newly developed Copyfitting Comparator contains the character-per-pica count for lowercase letters of more than 900 type faces in sizes from 5 to 24 pt. Manufacturer for each face is listed. Character-per-line calculator contains the number of characters in any line length from 1 to 32 picas for all faces shown.

Other features include: Tone Comparator containing 324 squares of gray tones which show how each of nine tone values, in each of nine screens, prints on each of four kinds of paper; 1500 answers to paper estimating problems; laws by which printers, publishers and advertisers must abide; standard specifications for wet printing; a cross-reference subject index containing more than 3500 entries; and revision of all standard features which appeared in previous *Production Yearbooks*.

Ninth Graphic Arts Production Yearbook—Published by Colton Press, Inc. Contains 918 pages and measures 8½ in. by 11¼



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Basic Requirements for Electrotypes

THE person or committee preparing the technical treatise *Basic Requirements for Electrotypes* did an excellent job in presenting the story. The booklet is divided into three sections—one for the customer, one for the photoengraver and one for the composing room. The major part of the text is devoted to electrotypers' requirements from the composing room in making up and locking up a form.

The object in printing the book is to provide a guide so that properly prepared engravings and forms will be sent to the electrotyper. In turn, he will be enabled to produce a better electrotype.

The wrong and the right conditions in form preparation are illustrated and described. This treatise should have widest circulation possible—and it should be referred to regularly.

Basic Requirements for Electrotypes—Published by the Intl. Assoc. of Electrotypers and Stereotypers, Inc., 701 Leader Bldg., Cleveland 14, O. Size, 8½ in. by 11 in.; 20 pages and cover; 18 illustrations. Ten copies postpaid, 25c per copy. Minimum order, four copies.

Techniques of Plant Maintenance

PLANT maintenance engineers will be pleased that an effort has been made to provide them som eliterature intimately related to their profession. For too long, these men have struggled with the problem of efficient plant maintenance without the printed moral support of their fellows. A comprehensive discussion of problems of plant maintenance occurred at the Plant Maintenance Show in Cleveland this year. The entire proceedings of this meeting have been published in permanent form. The text is in two volumes.

The proceedings are general in nature and are not specifically directed at the printing plant. Thirty experts in various fields of maintenance spoke during the meeting which was held concurrently with the Show.

Subjects covered include maintenance organization and principles; maintenance costs and budgeting; selection and upkeep of lighting equipment; upkeep of motors, controls and distribution equipment; use of electrical instruments in maintenance; upkeep of floors, walls and roofs; relationship of lighting and color to production; sanitation and housekeeping; lubrication; application of service equipment; protection of plant and worker, and the importance of maintenance safety. Questions submitted from the audience to the number of 554 are answered in the second volume.

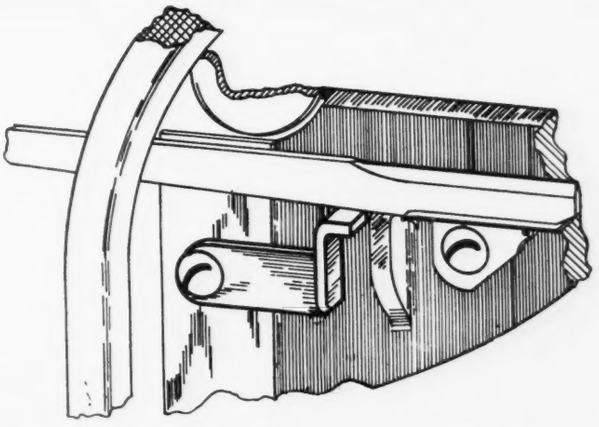
Techniques of Plant Maintenance—Two volumes, 278 pages, 8½ in. by 11 in.; included are 47 pages of tables, diagrams, illustrations, graphs and charts. Price of the two-volume set, $2. Order direct from Clapp & Poliak, Inc., 341 Madison Ave., New York 17, N. Y.

RIT Foremanship Course

A proposed schedule of topics to be included in a foremanship training course for the printing industry has been announced by the Department of Publishing and Printing, Rochester Institute of Technology. The six day course will be held during the week of June 19-24 at the Institute in Rochester, N. Y. Nationally known authorities will participate in the program as discussion leaders.

The proposed topics include: Understanding the Individual, Economics of the Printing Industry, The Rights and Duties of the Foreman, The Foreman's Relations with Workers and Management, New Technical Horizons, Application of Engineering Principles in the Graphic Arts Industry, Typographic Trends in 1950, Production Standards, Promoting Good Working Conditions, and Cost Systems, Cost Data and Cost Determination. Dr. Mark Ellingson, President of RIT, and Byron G. Culver, Head of the Publishing and Printing Dept., will also take part in the course.

Eliminates Principal Cause of Spaceband Transpositions



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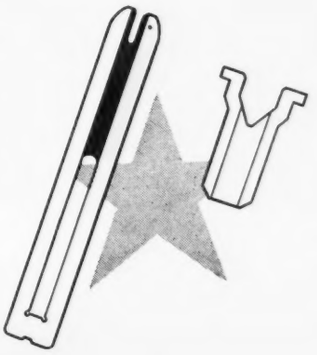

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Patents

For The GRAPHIC ARTS

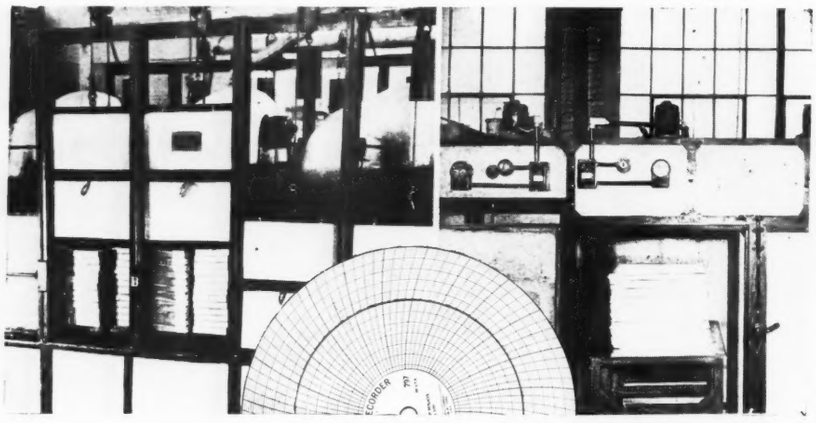
Covering patents issued March 7, March 14, March 21 and March 28.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Binding, Cutting, Perforating

2,499,744. TABLETING PRESS is for stacking and applying pressure to paper sheets so that one edge may be glued together to form pads or tablets. The press is made up of a base plate and a back board on which a stack of paper is rested. Resiliently attached to the base plate, at each rear side, are a pair of apertured metal strips. After placing the paper stack on the base board, the strips are pressed against each end of the stack, a top board is placed on top of the stack, and by means of thumb screws which are carried near each end of the top board, the top board is fastened into pressed-down engagement with the top of the stack by engaging the thumb screws in a selected pair of apertures of the metal and strips. Glue is then applied to the front edge of the stack. Invented by John L. Goines, Albert C. Goines, and Charles S. Goines, Charlotte, N. C. Unassigned. Application December 20, 1945. 5 claims.

2,501,501. SPIRAL BINDER. Invention provides for securely locking the spiral element of a spiral binder to a backing plate provided on the cover of the book. Backing plate is formed to interfit between convolutions or loops of the spiral element that mounts the leaves. At top and bottom of book a key provided with tongues or lugs passes through loops of binding. Lugs abut loops and prevent withdrawal of key. The key maintains spiral element in place on the backing to better and more securely mount the book leaves. Invented by Sumner W. Dow, Boston, Mass. Unassigned. Application October 26, 1945. 4 claims.



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Composing Room Equipment

2,499,521. POT WELL SCRAPER is for removing dross from the pot wells of linotypes or other slug casting machines. The device embodies a pair of scraper blades which are outwardly movable responsive to downward pressure on a rotatable handle with which they are associated. Scraper blades thus contact inner sides of the pot wall and remove the dross therefrom as the blades are rotated. Blades are pivoted through a linkage to an operating rod, and the pressure applied to the walls is determined by the downward pressure to the operating handle of the device. Invented by Hugh O. Morrison, Birmingham, Ala. Unassigned. Application June 8, 1946. 1 claim.

2,499,841. IMPLEMENT IS FOR HANDLING PRINTING FORMS of the type composed of a chase within which is held a sheet of type by one or more quoins of the double wedge type, the wedge confronting face of each wedge of the quoin having a longitudinal tongue. The implement is in the form of an upright block, parallelopiped oblong in plan, the block having one of its dimensions in plan equal to height of the risers of the wedges of the quoin. One vertical face of block has an upwardly facing shoulder so located as to be slidably under the tongue on the exposed end of one wedge of the quoin. A vertical stem pivots on top of block and is rotatable about a vertical axis and device is manipulated by a crosswise handle connected to the stem. Invented by Henry J. Ulmer, Ramsey, N. J. Unassigned. Application January 10, 1947. 4 claims.

2,501,949. PRINTER'S QUOIN with expansion indicating means is intended to eliminate the possibility of the operator not knowing positively when the quoin is closed or open in its entirety, thereby obviating the breakage of quoin or its operating key. A pin projects from the longitudinally movable wedge bar of quoin into a slot in the body of the quoin. The length of the slot and the travel of the pin therein corresponds to the movement of the transversely movable wedge bar and the limits thereof. Invented by James

Edgar Lee, Grand Haven, and Freeman Barney, Spring Lake, Mich. Assigned to The Challenge Machinery Co., Grand Haven, Mich. Application September 17, 1945. 4 claims.

Feeding, Folding, Delivery

2,499,570. ROTARY CUTTING MECHANISM is for cutting and separating a printed and folded web into three parts, with a separate delivery for each part. One of a pair of cutting cylinders has two cutting means and four sheet holding means. The other of the cutting cylinders has two cutting means and one sheet holding means. There is a slowdown delivery cylinder to receive products from last mentioned cutting cylinder and two slowdown delivery cylinders to receive products from the first cutting cylinder of the pair mentioned. Invented by Curtis S. Crafts, Oak Park, Ill. Assigned to The Goss Printing Press Co., Chicago, Ill. Application October 30, 1945. 14 claims.

2,501,553. AUXILIARY RELOADING PLATE for press feeders is designed to operate on a conventional Kluge press feeder. The auxiliary reloading plate or panel consists of a stock separator plate of a length equal to the width of the reloading magazine of the press feeder and has on each end a lug for attachment to slide frame castings of the feeder magazine. In clamped position, auxiliary reloading panel occupies position of the elevator advancing plate while the latter is being retracted preparatory to replenishing the partially depleted magazine and functions to retain the remaining stock in the magazine in feeding position. Following replenishing operation, auxiliary panel is completely removed from magazine until again needed. Invented by George W. Waller and Harry H. Waller, Dallas, Tex. Unassigned. Application July 28, 1948. 2 claims.

2,501,835 and 2,501,836. FOLDING, CUTTING, AND DELIVERING MECHANISM is disclosed in which a pair of rotary cutters have coacting cutting devices for cutting associated and longitudinally folded traveling webs into three signatures each cycle of the cutters. The signatures are delivered to a corresponding odd number, of different points, such as traveling endless tape carriers. Speed of travel of the signatures is reduced so that each signature will not interfere with the leading edge of its next succeeding signature. Traveling side guides are driven at the speed of the endless tape carriers and serve to overcome the tendency of the signatures to slide sideways off the tape carriers. The signatures, on each cycle of the rotary cutters, are delivered under reduced speed to their respective first, second and third endless delivery carriers. No. 2,501,836 is a companion patent and relates to means for delivery associated and folded signatures. Invented by Howard M. Barber, Pawcatuck, Conn. Assigned to C. B. Cottrell & Sons Co., Westerly, R. I. Original application February 7, 1945. 11 and 2 claims, respectively.

Miscellaneous

2,500,573. ROLL COVERINGS. In this method of making roll coverings, sponge rubber is used to make a cover for a slasher roll used in offset printing and textile machinery. The method comprises applying a bulk layer of polysulfide rubber material to a mandrel, vulcanizing the layer, placing a mixture of a water soluble salt and polysulfide rubber in the proportion of 200 to 300 lbs. of salt per 100 lbs. of polysulfide rubber to form a relatively thin surface layer, curing the unit thus formed and removing all of the salt crystals from the surface layer by leaching whereby channel-like voids are formed throughout the entire thickness of the surface layer. Invented by Joseph Rockoff, Dayton, O. Assigned to The Dayton Rubber Co., Dayton, O. Application January 18, 1947. 14 claims.

Plate Making

2,500,877. A PHOTOGRAPHIC STENCIL SCREEN for half-tone printing comprises a base of woven textile fabric impregnated and coated with hardened gelatinous material. The fabric has incorporated in the strands thereof a light-sensitive silver salt. The coating has smooth, regularly spaced openings extending through the spaces between the strands of the fabric. Each space contains but a sigle opening, and the openings vary in size at different parts of the screen in accordance with the depth of tone to be printed. Difficulties due to moirè effect are said to be entirely eliminated. Invented by Thomas D. Sharples, South Pasadena, Calif. Assigned to the Sharples Corp.,

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COMPANY_____
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PE

Philadelphia, Pa. Application October 24, 1944. 6 claims.

2,501,922. MACHINE FOR SCORCHING OR DRYING PRINTING MATS is provided with an improved cover or hold-down plate which holds the work against wrinkling or buckling when heated and also permits free escape of the vapors and gases released from the work by the heating. Relatively high temperatures may be used in the drying or scorching of the mats with a minimum likelihood of burning or injuring them. Cover is in the form of a grid plate or screen. Invented by Donald E. Sutton, Kalamazoo, Mich. Assigned to Hammond Machinery Builders, Inc., Kalamazoo, Mich. Application November 3, 1947. 8 claims.

Printing Inks

During the four weeks covered by this report, no patents have been issued for this heading.

Printing Presses and Equipment

2,499,572. INK DRYER may readily be applied to printing presses of conventional construction. The drying apparatus is formed as a composite unit for attachment to side rails of the press and includes an elongated furnace having inlet and outlet manifolds at opposite ends thereof connected to the ends of a hood having an elongated restricted passage through which web passes. The heating element consists of a cylindrical casing having a gas burner mounted at one end. An air blower is mounted at other end adjacent the outlet manifold. The hood includes a top plate and bottom plate, generally arched in opposed relation to each other, connected to each other to form a housing with elongated slots which define the ends of passage through which web is passed. The improved form of auxiliary air intake provided by the invention includes a cool air vent which automatically opens when the speed of the press is reduced below a predetermined rate so as to avoid the application of an excessive amount of heat to the web when the press is slowed down or stopped. Invented by Paul H. Dunakin, Wheaton, and Fred B. Korb, Downers Grove, Ill. Unassigned. Appplication February 14, 1947. 1 claim.

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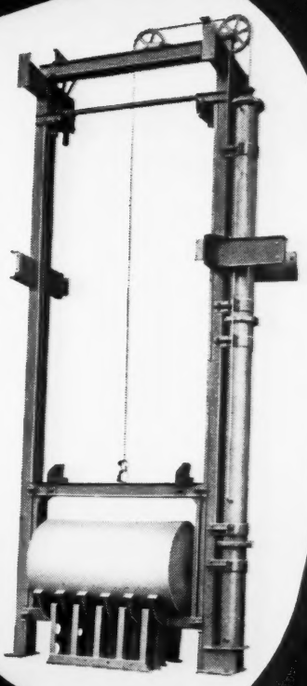
2,499,638. INKING ATTACHMENT FOR PRINTING PRESSES is for improving distribution of ink in flat bed letter presses. A novel arrangement provides even distribution of ink on the ink plate, means being provided for imparting driving rotation to the ductor roller so that a different point on its periphery strikes the fountain roller at each successive application of ink. Means for assuring a different point of contact between ductor roller and fountain roller comprise an improved brake. The brake consists of a spring-pressed, yieldable member which exerts an approved measure of pressure on the periphery of the ductor roller shaft. Invented by Leo J. Fonseca, New York, N. Y. Assigned to Isaac Goldman Co., New York, N. Y. Application June 21, 1947. 3 claims.

2,500,230. REGISTER REGULATOR FOR PRINTING PRESSES. The invention aims to reduce the number of scanning devices, and the circuit elements associated therewith, that are used in a register regulator for four color work. Two scanners for each color have been required, making a total of twelve, while with the present system a total of seven scanners are required for dual-page multi-color presses. The control systems for operating the compensator motors in register regulators have also been improved so that the speed of each individual motor can readily be adjusted, within a wide range, to suit the speed, or the transmission or gear ratio of the driving equipment of each individual press with which the compensator motor is to be associated. Invented by Francis T. Bailey, Pittsburgh, and Stephen L. Burgwin, Forest Hills, Pa. Assigned to Westinghouse Electric Corp., East Pittsburgh, Pa. Application December 10, 1946. 17 claims.

2,501,047. A DRY POWDER SPRAYER is disclosed. A dry powder in the form of clouds may be directed upon printed sheets as they are moved toward stacking position from a printing press to prevent offset of ink. The sprayer in-

LETTING THE BIG ONES DOWN EASY



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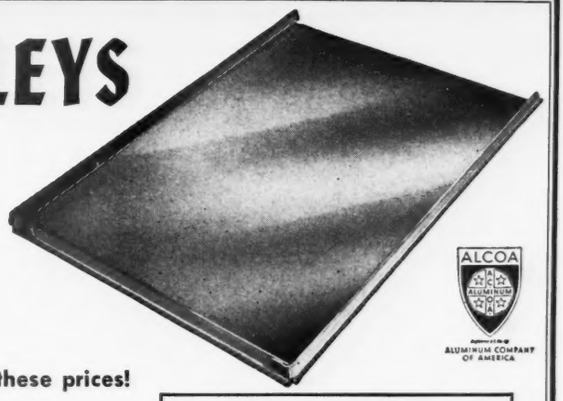

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2000	8½x23½	59¢ ea.
600	8½x23½ (closed both ends)	59¢ ea.
2000	3½x23½	39¢ ea.
1500	10x16	39¢ ea.
3000	8¾x13 (used)	39¢ ea.

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10	12x18	$35.00

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Quantity	Size	Price
12	8¾x13	$39.00
15	10x16	$42.00
5	6¼x23½	$45.00
10	8½x23½	$45.00
8	12x18	$49.00

GRAPHIC ARTS PRODUCTS

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cludes a tubular container, preferably made of transparent material, for holding the powder and means for projecting air into the powder to form a homogeneous and aerated mass which is then sprayed onto the printed sheets from a nozzle mounted at the bottom of the container. Air is injected at the top. Invented by Eric Gustafsson, John W. Baur, and Theodore Kern, Chicago, Ill. Assigned to Binks Mfg. Co., Chicago, Ill. Application October 20,, 1945. 11 claims.

2,501,629 and 2,501,630. THE PRINT ROLL eliminates great weight of copper and consequent dynamic unbalance and has structural characteristics permitting satisfactory engraving. It includes an outer shell of copper or high copper content copper base alloy. The shell is drawn or extruded seamless tube having walls about 3/8 in. thick. Supporting the shell on the slightly tapered mandrel is a core formed of a series of contacting laminations, which can be made of cardboard. Each end of the core is provided with steel disks. Patent 2,501,629 claims the print roll per se and companion patent 2,501,630 claims method of making the roll. Invented by Joseph M. Goulding, Fairhaven, Mass. Assigned to Revere Copper and Brass, Inc., New York, N. Y. Original application June 13, 1944. 10 and 3 claims, respectively.

2,501,780. PRINTER'S ROLL comprises a core, a spirally wrapped composition cork strip of rhomboidal cross section adhesively bonded to the core, and a second cork strip also of rhomboidal cross section spirally wrapped upon the first strip in a reverse direction, the incidence of the joints of the second strip being midway between the joints of the first strip. Invented by Herbert J. Lowe, Galesburg, Ill. Unassigned. Application April 16, 1948. 1 claim.

Globe Remodels

Globe Printers' Supply Co., Inc., has announced the completion of a program for remodeling and enlarging showroom, offices and service facilities. A machine shop has been installed for the rebuilding and repairing of printing machinery. The program has doubled the floor area to 14,000 sq. ft. The firm has also announced the appointment of Samuel Brown and Irving Zickel to the sales staff. They will cover the New York, N. Y. and northern New Jersey areas, respectively.

Observes 125th Year

The Democrat Press of Flemington, N. J., commercial printing unit of the Hunterdon County (N.J.) *Democrat*, is observing this year a century and a quarter of continuous operation. Founded on March 24, 1825, by Charles George, the newspaper at the outset was a four-page affair called the Hunterdon County *Gazette and Farmers Weekly Advertiser*. As part of the firm's anniversary observance, a series of stuffers have been issued for distribution pertaining to sales, color, typography and quality of printing. Officers of The Democrat Press include D. Howard Moreau, Proprietor, and Samuel Graydon, Manager.

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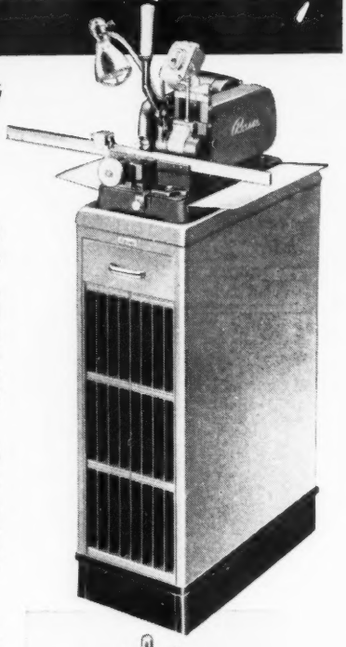

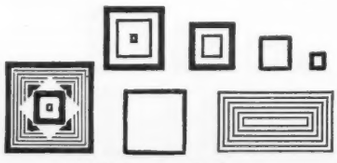

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ROUSE PRODUCTS — THE STANDARD OF THE WORLD FOR 50 YEARS

MITERING MACHINES
LEAD and RULE CUTTERS
COMPOSING STICKS
TYPE GAUGES
SLUG CLIPPERS
BAND SAWS

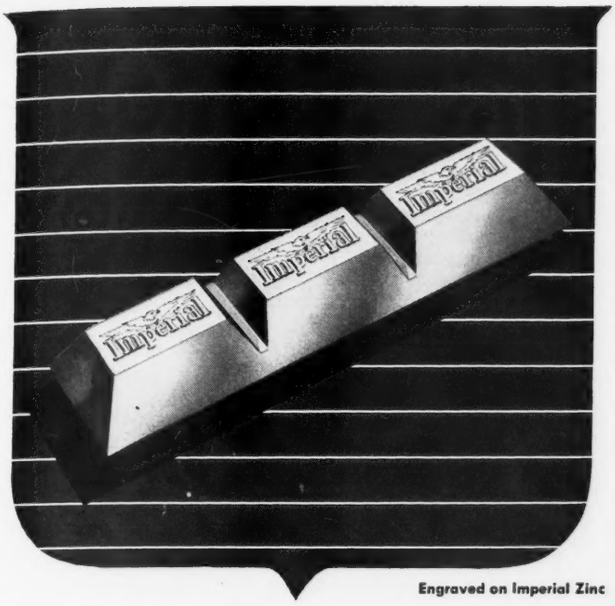
Northwest Conference

(Continued from Page 36)

chemist can tell us that he can mix 30,000 colors, which is true. But neither of them would even venture to suggest how Mr. and Mrs. Joe Doakes are going to react to these colors. In other words, your mechanical departments can use the colors and get technically correct results. But your results may be way off psychologically. Now if Joe and Mrs. Doakes do not like your mechanical correct work, they do not like it. Period. So we have to learn something about what people like and what they don't like.

"The chemist tells us he can make 30 thousand different colors without difficulty. We then get confused, but we needn't. The psychologist says the average person can name less than 25 colors which anyone else can identify. Some of you can name up to 50. That's all. Try it sometime.

"Yellow has the highest value of all chromatic colors and black has the lowest value of all chromatic colors giving the widest possible range of contrast. Now, if anyone concludes that black and yellow produce the greatest visibility in all cases the conclusion is wrong. For instance, if



Engraved on Imperial Zinc

When you specify "Imperial," there's no guesswork about maintaining metal quality

★ Guesswork about the quality of metal in the pot can often prove to be costly extravagance. It isn't the cost of the metal that may have to be replaced ...it's the make-overs and lost production that can bring on red figures, red faces and gray hairs.

With Imperial you never need to guess and worry about the quality of your working metal supply. Instead you simply turn over responsibility for maintaining type metal quality to Imperial type metal specialists who are constantly at your service because they have no other interests to serve.

Personal counsel and continuing attention from Imperial representatives is a most important part of the Imperial "Better Metal—Better Printing" Program. Ask the Imperial representative to tell you all about the *complete* program, next time he calls.

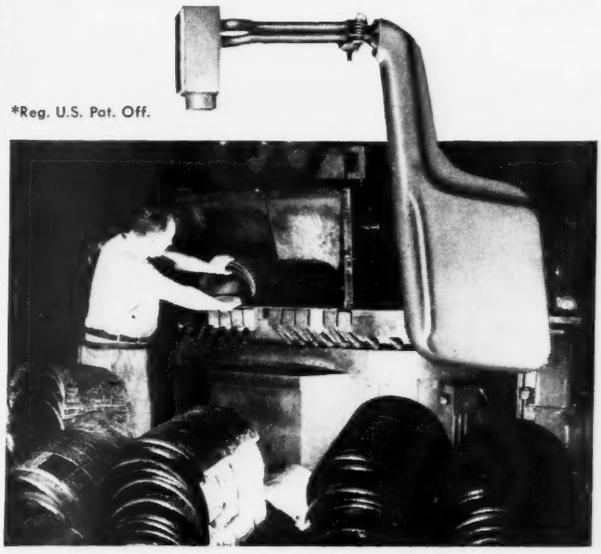
EXHIBITOR
GRAPHIC ARTS EXPOSITION
CHICAGO-SEPTEMBER 11-23-1950
Booth No. 287

Imperial
TYPE METAL COMPANY
Serving the Graphic Arts Exclusively
PHILADELPHIA 34 · NEW YORK 7 · CHICAGO 50

Cast 'em clean, Cast 'em quick!

melt stereotype metal the modern way with G-E CALROD* HEATERS

*Reg. U.S. Pat. Off.



Winner of the 1949 F. Wayland Ayer Award, the New York Times uses electric heat exclusively for melting stereotype metal.

Cast cleaner, sharper plates. Melt your stereotype metal by the fastest, most accurate method available . . . G-E Calrod, cast-in, immersion heaters!

Maintenance is lower. No servicing of the heaters is necessary. And some heaters have been in use as long as 25 years.

Working conditions are improved. Casting rooms are cleaner and cooler because the heaters are immersed right in the metal for maximum heat transfer with minimum heat losses.

Melt metal as fast as your automatics can cast it! No "cold-metal" stoppage when G-E Calrod cast-in heaters are on the job! Metal is melted faster than the maximum rate of casting and yet maintained at the *correct temperature for casting.*

Convert your stereotype furnaces over the week end. ...with no interruption in production... G-E Calrod, cast-in heaters are *that* easy to install.

To order the heaters and control for your furnaces just contact the G-E Apparatus Sales Office nearest you. For more information,

SEND FOR NEW, FREE PUBLICATION, GEA-5453, "Melting Stereotype Metal with Electric Heaters."

Apparatus Dept., Sect. 720-21, General Electric Company, Schenectady 5, N. Y.

GENERAL ELECTRIC

you print several columns of black type on a yellow background the first few words are easy to read. But after reading for about 30 or 40 sec. the phenomena of after-image goes to work. That is, the eye becomes saturated with yellow and reacts to it no longer. Then, what remains of white light is reflected (blue) which mixes with yellow and black to produce a very nauseating color. We must always be aware of the influence of neighboring colors and the ever-present background.

"Relatively speaking, we are wandering around in a wilderness of color. In planning any color printing we will take into consideration that one out of every five persons wears glasses; that another out of that five ought to wear glasses; that about one out of every 25 men is colorblind while only one out of every 250 women is colorblind; that colorblindness means not totally colorblind, but one is blind to a pair of complements, such as red-green, blue-yellow.

"There can be no rules for the use of color because every job requires different treatment. Often only attention-getting effect is considered when using color. For instance, a strong colored background attracts attention, in fact so much that the product is not seen."

Mr. Kienholz then discussed the Otswald system, and the color system introduced by the Color Research Institute of America. It was designed by Louis Cheskin.

The next speaker was I. Tornberg, Vice President of Wood Newspaper Machinery Corp., who discussed the Wood Cosmopolitan Press with the Intrasertor. (See July and November 1949 issues of *Printing Equipment Engineer* for full description of the press and the Intrasertor.)

Questions and Answers

A question and answer period followed during which it was brought out that 7/8 in. mat shrinkage is unsatisfactory for color work. Baking of the mat on the form to eliminate excess shrinkage was recommended.

In a discussion of color registration difficulties in newspaper production, it was emphasized that newspaper color is more hazardous than magazine color by reason of stock and ink behavior but that more inherent variables exist in stereotyping than in other forms of reproduction and is therefore subject to more avenues for error in registration.

Mailing Room Clinic

PRESIDING over the Mailing Room clinic was Joe Mayen of the St. Paul *Dispatch* and *Pioneer Press*. His co-chairman was Harry Carver of the Minneapolis *Star* and *Tribune*.

The first educational feature of this clinic was a film showing of the Sheridan Stuffing machine by Wm. Lefevre of the T. W. & C. B. Sheridan Co.

Mr. Lefevre prefaced the film showing with a brief history of the Sheridan company. The machine shown in the film is one used by the Philadelphia *Inquirer*. While the present machine is a one-up operation, he said, engineers are working to produce a 2-up machine. The capacity of the present machine is 10,800 an hour, he said.

In the question and answer period after the film it was brought out that where a needle gatherer is used the suction will not operate properly when it hits on pinholes; that if papers are badly folded it is necessary to hand stick them; that balloon folds will give trouble; that Joe Menard of the Des Moines *Register* is experimenting with a jogger; that papers should be folded with a slight lap to give the wipers a chance to grip the front edge.

The Starstarter

An added feature of the meeting was a chart demonstration of a packaging line for mailing newspapers developed by the Toronto *Star*. The demonstration and discussion was given by Al Katz of the Toronto *Star* manufacturing division. (See February 1950 issue of *Printing Equipment Engineer* for illustrated article about the Star Starter by T. R. Sykes.)

Mr. Katz said the machine is not advisable for papers with less than 100,000 circulation and that the general mailing

BEVERIDGE *Says:*

"If it's in the Original, BEVERIDGE MATS will pick it up"

Yes, sir, whether it's a line drawing or a halftone, details in the original will be picked up sharp and clean by BEVERIDGE MATS. If type faces are sharp and clean cut, BEVERIDGE MATS will reproduce every detail. That means a beautiful clean cut casting and a well printed paper. You can test this for yourself. Take one or two hard to reproduce jobs and put BEVERIDGE MATS to work—then compare with the mats you are now using. The result is a quality reproduction you have not experienced before.

New Products Division
The Beveridge Paper Company
Indianapolis 4, Indiana

"Be Thrifty in '50"

BAUMFOLDERS

14x20 Five-fold Automatic Baumfolder
$85 initial and $1 a day for 30 months.

17½x22½ Six-fold Automatic Baumfolder
$150 initial and $1.40 a day for 30 months.

22x28 and 25x38 Automatic Baumfolders.

30x46 . . . 60 Automatic Baumfolder.

Proportionately painless in outgo, but boy, OH BOY . . . an **income** for a **life time** of **golden profit.**

If kept busy but two or three days a month it will pay for itself several times over, before you pay for it.

The next move is yours . . . write, wire or phone collect (from anywhere) . . . Lombard 3-8164-5-6.

RUSSELL ERNEST BAUM
615 CHESTNUT ST. PHILADELPHIA, PA.

Give profits a BOOST

WITH THESE CHALLENGE TIME SAVING DEVICES

CHALLENGE Semi-Steel IMPOSING SURFACES

A rigid, precision ground semi-steel surface as accurate as a cylinder press bed. No coffin required . . . no place to lose type or spacing material. Rabbet is optional . . . right depth for end of regulation galley. Two inches thick . . . rib reinforced. Made in 18 sizes with special sizes to order. Available with Challenge All-Steel Arc-Welded Imposing Table for rigid support and large galley storage capacity.

CHALLENGE QUOINS and KEYS

Challenge Quoins give more bearing surface. Beveled heels and points allow one quoin to slide onto the other and corrugations on center ribs prevent slippage. Made in 3 sizes: Dwarf, Small, large. Challenge Keys are guaranteed for one year against defects in material and workmanship. Solid tool steel shank . . . semi-steel handle. Teeth accurately cut. Fit Challenge-Hempel, Challenge, Favorite and Hempel Quoins.

CHALLENGE GALLEYS

Double-Wall Pressed Steel . . . Precision made of high grade auto body stock with beaded metal edge. Extra wall gives added strength and rigidity. Furnished plain or with rust-proof plating in standard job, news and mailing sizes. Also available: Challenge Single-Wall Non-Rust Galleys and Challenge low price Steel Storage Galleys.

CHALLENGE IRON FURNITURE

Labor-Saving Iron Furniture . . . Made of finest iron, finished to absolute point measure with smoothly beveled edges. Stays accurate under heat and tight locking. Large raised figures show pica size. Cross braces add strength and provide finger hold. Full range of sizes.

EXHIBITOR
GRAPHIC ARTS EXPOSITION
CHICAGO SEPTEMBER 11-23 1950

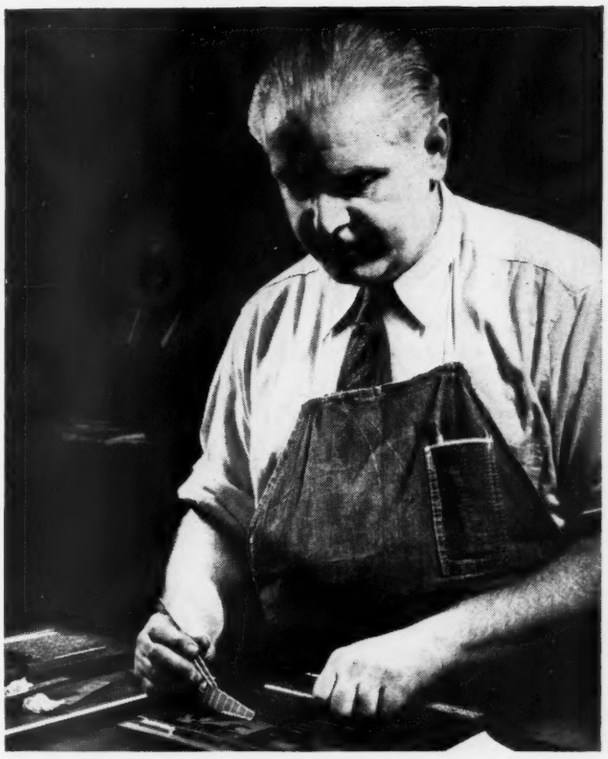
THE CHALLENGE MACHINERY CO.

Office and Factories: GRAND HAVEN, MICHIGAN

Challenge REG. U. S. PAT. OFF.

"Over Fifty Years in Service of the Graphic Arts"

DEALERS IN ALL PRINCIPAL CITIES



"To me as a make-up man, Blatchford's the buy because

. . . it makes clean, solid slugs that are easy to handle: to trim, line up, and lock up."

Every make-up man wants material that fits without fussing. And in type, slugs, and strip of Blatchford, he can be *sure* he gets it. Why?

First, because the lead, tin, and antimony are tops in quality. Unlimited metal resources plus close laboratory control account for that.

Second, because Blatchford formulations assure the characteristics and behavior you expect. Nothing is left to chance.

Third, because alloying and molding are under constant control. Every batch of Blatchford reflects know-how gained by nearly a century of metal-mixing experience.

That's why make-up men, operators, and pressmen tell you, "when it comes to metal, Blatchford's the buy." Try it.

* *

Keep your metal stock always up to par — use the famous *Blatchford Metal Maintenance Service.* Write for details.

NATIONAL LEAD COMPANY, *Atlanta, Baltimore, Chicago, Cincinnati, Cleveland, Pittsburgh, St. Louis: National Lead Co. of Mass., Boston; E. W. Blatchford Co., New York; Morris P. Kirk & Son, Inc., Los Angeles; American Lead Corp., Indianapolis.*

E. W. BLATCHFORD COMPANY REPUTATION EST'D 1854 INCO. 1890 TOWER OF STRENGTH

Blatchford . . .
the NATIONAL name for dependable metal

Makers of the famous Blatchford "Honeycomb" Base

room layout has to be good to get the most from the equipment.

As a concluding feature of the clinic, P. P. Heltemes and T. E. Olney of the Elliott Addressing system demonstrated and explained *Elliott Addressing Equipment and Its Use*. They pointed out advantages of mechanical addressing of newspapers. Among them they listed legibility, assuring more accurate delivery by the Post Office; a full name and address on each paper eliminates non-deliveries if a bundle is broken; speed of addressing and the saving of labor by a simple method of making address plates.

It was further pointed out that the circulation department can bill from the same address cards as expirations become due and all work of preparing new names and addresses can be done in the front office. Also mentioned was that the Post-office department is becoming more positive in observance of an old rule that all addresses on newspapers and magazines shall be in at least 10 pt. type and that while there has been some leniency in the past, this attitude is disappearing.

The Banquet

SEATED at the banquet table were Conference President Joseph Cory of the *Dispatch* and *Pioneer Press*; First Vice President Vernon G. Eck of Dunwoody Industrial Institute, Minneapolis; Second Vice President J. A. Breen of the Duluth *Herald* and *News-Tribune*; Secretary-Treasurer Ralph Carson of Dunwoody Industrial Institute; M. M. Oppegard of the Grand Forks (N.D.) *Herald*, Master of Ceremonies; Past President Charles McGuire of the Minneapolis *Star* and *Tribune*; Daniel H. Ridder, Assistant to the Publisher of the St. Paul *Dispatch* and *Pioneer Press*; and Herman H. Ridder, Publisher of the *Dispatch* and *Pioneer Press*.

Introduction included those of the following past presidents: George Curle, Al Rosene, Charles N. Bertram, and William C. Brown.

Mr. Ridder declared that no major industry with the possible exception of the railroads is so far behind the times as the Newspaper business and added that the newspaper industry must be shaken out of its lethargy if it is to meet the future competition of radio, television and magazine.

Three major factors can be blamed for the newspaper situation, Mr. Ridder said: The trend toward monopolies, union featherbedding and the indifference of publishers. The trend toward monopoly is gaining headway because the high costs of putting out a newspaper force the smaller operators out of business, he said, therefore competition cannot be expected to perk up the industry

These two efficient saw trimmers are established as cost savers. They bring you five important benefits:

1. Faster Work
2. Higher Efficiency
3. Greater Accuracy
4. Improved Safety
5. Lower Maintenance Cost

The new 3-A-45 folder contains details. Write for your copy.

Symbol of Operating Economy

The Morrison Company

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Holding Down Costs

THE Composing Room clinic was held Monday with Conference President Cory opening the meeting. He introduced Bob Lee of the St. Paul *Dispatch* and *Pioneer Press*, who presided, and his co-chairman, Bill Davies, of the Minneapolis *Star* and *Tribune*.

Mr. Lee introduced Al Rosene, St. Paul *Dispatch* and *Pioneer Press* Production Manager, who discussed *Production in Today's Composing Room*.

Mr. Rosene said in part:

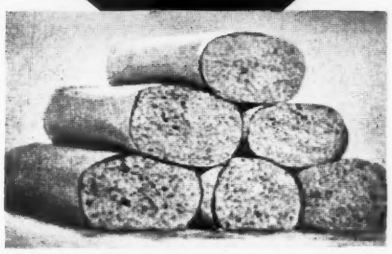
"Obviously, there can be no other theme in a meeting of this type than: How can we hold or reduce our rising production costs? Most every trade magazine that one reads these days is replete with stories about consolidations, suspensions, dailies becoming weeklies and other such happenings, all having one underlying cause—rising costs of production.

"The trend is continuing. I refer specifically to the Fort Wayne, Ind., newspapers which have merged their production facilities. This is the seventh such merger since the war.

"Now I hope you people are not sitting there and saying: "Yes, that happened in the places listed, but it cannot happen to us." Let me tell you that it can happen to anyone of you if production costs and operating costs get so far out of line that some such move would be an absolute

FLECTO

GUMMED BACKING FELT....



8 WAYS BETTER!

- Individually packed with 5 sheets per bundle.
- Special fast-binding adhesive for use on any make of dry mat, **regardless of heat used in scorching.**
- FLECTO will not crack, peel, slip or crystallize.
- Tears easily and cleanly.
- Gauged to absolute uniformity and accuracy.
- Will not separate in layers, thanks to perfect bonding.
- FLECTO is soft, pliable and conforms to the mat . . . shrinks with the mat.
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You'll find Flecto . . . and hundreds of other dependable items in Eastern's latest catalog . . . WRITE FOR A COPY

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EASTERN NEWSPAPER SUPPLY, INC.

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Oldest in the Country-
WOOD DRY MATS
First in the Field!
Long Experience Plus
In 35 years we've made only one product, and put everything we have into it.
Result:
Wood Mats
Handle Easier
Print Better

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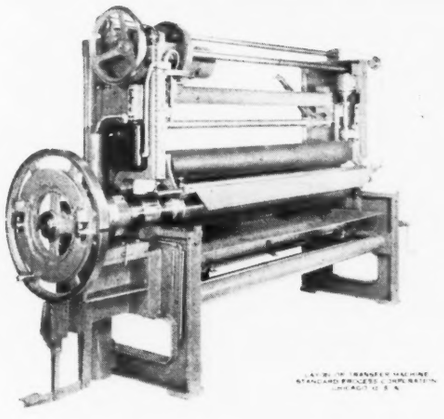

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PRECISION LAYON MACHINE

Manufactured in a wide range of sizes for transferring carbon tissue in perfect register to any number of cylinders. This is accomplished by means of a definite key between copy and cylinder, a positive method of fixing the cylinder in the machine and a device for checking accuracy of its position so it can be re-positioned any number of times. A lock on the dividing head secures the cylinder in position. The rubber impression roll is raised and lowered by a gear motor with pressure against the cylinder regulated by an adjustable control. Equipped with counter-balanced register bar, Vernier scale and scribe.

STANDARD PROCESS CORPORATION

Manufacturing Gravure Equipment & Supplies

2704 W. Roscoe Street • Chicago 18, Ill.

The New . . .

CUSHMAN *Ball Bearing* MOTOR

. . . is the Modern Power Unit for LATE SERIAL LINOTYPES

. . . equipped with lowered elevating mechanism (The "Cannon")

This New Cushman has two-part pulley gear. Hub may be separated from gear and applied to driving shaft in that order. The duo parts are joined with screws and dowel pins.

For your Older Model Linotypes

the Cushman Ball Bearing Motor comes equipped with regular driving gear.

The Old Reliable Sleeve Bearing Cushman

is still in production and will be supplied whenever the Ball Bearing type is not specified. Literature on request.

PRECISION TRADE ★ MARK

LINOTYPE PARTS COMPANY

INCORPORATED

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necessity, even in towns where a monopoly exists.

"A study of the average daily's operating figures revealed no one property with revenue increases exceeding expense increases. The lowest revenue gain was 9%, the highest 25.5%. On the other hand, the lowest cost increase was 16.4% and the highest 29.9%. Again, increase in expenses showing the greatest gain. Incidentally, you are all aware that the smaller the paper the more the cost of the composing room in relation to all expenses.

"Our industry is peculiar in that a drop in gross revenue is not necessarily reflected in operating costs, inasmuch as labor forms a substantial part of our overall cost. A 10% loss of revenue to the average retailer or wholesaler will find his operating costs roughly following the same trend.

"Your publisher approves your attendance at meetings such as is being held here in St. Paul, hoping that you will come home with ideas that can be put to use and that will produce definite savings and thereby lower production costs for him. Your job is to study the operation which you supervise or of which you are a part to see what shortcuts can be introduced.

"If you have an idea that you think will save money, discuss it with your coworkers and explain the reasons for the move so that unnecessary resistances will not be built up by the mistaken thinking that a lot of people are going to be deprived of their employment.

"If these savings are not forthcoming through reduced production costs, there will be far more people put out of work through mergers and suspensions than through efficient ways of handling your given job. The problem merits serious thinking and I would like to close by saying—it's your ball."

Newspaper Makeup

Discussing *Newspaper Makeup*, the next speaker, Thomas Barnhart of the University of Minnesota, said: "Newspaper typographers look upon the last two decades, and the present as well, as a period of revolution in newspaper making, a revolution marked by extreme changes in both makeup and typography.

"Today, newspapermen, struggling in the currents of functional modernism, find many of their practices and procedures in a continuous state of change. Nowhere is this more evident than in makeup and typography. This has resulted in some newspapers being old in appearance, some part old and part new and others modern in makeup and typography. Thus they are classed as "traditional", "semimodern" and "functional modern."

"Functional modernism has brought

for Better Plates! Better Printing!

★ CENTRIFUGAL CASTING PROCESS for curved electrotypes

★ HYDRO-CASTER for flat electrotypes

These new methods of manufacturing electrotypes are available to you—for further information write

Printing Plate CENTRIFUGAL PRESSURE CASTING Supply Company

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If you have not ordered recently, take a check now and see how many tubes of this high quality ZINK CUT CEMENT you have on hand. Don't wait until you are all out—order a new supply now. BOOTH'S ZINK CUT CEMENT is unbeatable for quickly mounting cuts and holding them fast . . . used in all good composing rooms and stereotype departments.

Prices: 75c per tube, $6.00 per dozen in the United States.

HAVE YOU TRIED BOOTH'S RUBBER ROLLS?

You'll find them smooth . . . always receptive to line composing machine keyboard cam action. More than that, they have maximum cam gripping qualities and high resistance to glaze. They are of even diameter when properly applied to the roll shaft. They're *always* good. Send for yours now.

Prices: $1.45 per pair, $7.75 per dozen.

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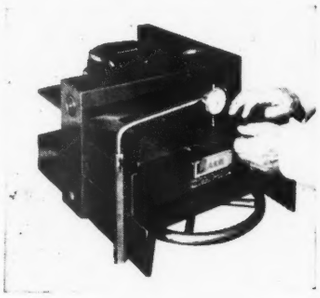
If you use *Rubber Printing Plates* You Need A



HACO PRECISION RUBBER PLATE GRINDER

not only to level plates that are uneven because of variance in type, cuts, and etc., but it will grind your plates to the thickness you desire.

Write today for free booklet

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"Keep your presses rolling with Ohio Rollers"

Our Duro-Major roller is a dependable link between the ink and the paper

OHIO ROLLER COMPANY

4408 Detroit Ave., Cleveland 13, Ohio **6333 E. Canfield (Rear), Detroit 7, Michigan**

simplicity to newspaper makeup and headlines, but it has added to the complexity of planning newspapers generally, for it has compelled editors and students to have a working knowledge of the three classifications of newspapers in regard to page design and typography.

"The switch to simple type designs made possible the first newspaper headline schedule to fulfill all the functionalists' requirements: (1) Easy to write headlines, (2) easy to set headlines, and (3) easy to read headlines.

The Star Quadder

Concluding the Composing Room clinic was a talk and demonstration of the Star Automatic Quadder by Emil Bendow. Mr. Bendow gave a short history of the quadder and added that the first model is still working. Recent refinements have been made, he said. He demonstrated operation of the quadder.

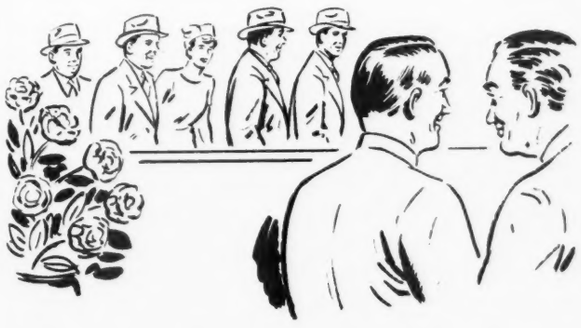
He pointed out that if the quadder should fail it will not stop operation of the line-composing machine since the operator can return to ordinary operation by pushing a button. Other features he discussed were the automatic spacer; setting flush right, or left, or center; it is almost impossible to get a squirt, but a squirt will not stop operation of the quadder. He also pointed out that the dividing line between the vise jaws is very thin so no hairlines will cast on the slug and there is no jaw slap in operation.

Joint Conference

(Continued from Page 33)

grinding," he said. "Rollers should be reground by a competent roller maker who has the facilities to hold the rollers in their grinding machines exactly as they run in the press so that the rollers, regardless of shaft condition, will be concentric when in the press."

The story of *The New Cosmopolitan Press*, manufactured specifically for the



It was a GREAT DAY when the new plant opened

Crowds of visitors, speeches, flowers, refreshments — the mechanical departments resplendent and happy with new equipment, air conditioning, better light . . . "It's a great layout," remarks Stereo Steve, "but I notice one thing they haven't changed. We have the same Certified Mats." . . . "Yes," answers Foreman John, "It's our same old mats that are going to make our new equipment look particularly good."

For dependable stereotyping, rely on Certified Mats — Certified DRY MATS

CERTIFIED DRY MAT CORPORATION, 9 Rockefeller Plaza, Dept. M, New York 20, N. Y

"REGAL" by New England

This name for our new Monocork Blankets is fast becoming the "buy" word of pressmen who are discovering the advantages we have built into this material.

If you have not yet had an opportunity to see what "REGALS" can do for you, now is the time.

YOU BE THE JUDGE!

NEW ENGLAND NEWSPAPER SUPPLY CO.

164 FREMONT STREET
WORCESTER MASSACHUSETTS

BRANCHES: New York—Chicago—San Francisco—Tulsa

DO A BETTER JOB
10 TIMES FASTER

SYNTRON
PAPER JOGGERS
Twelve Beautiful Models

Single Action
Models

Tiltomatic Models

Double Action
Models

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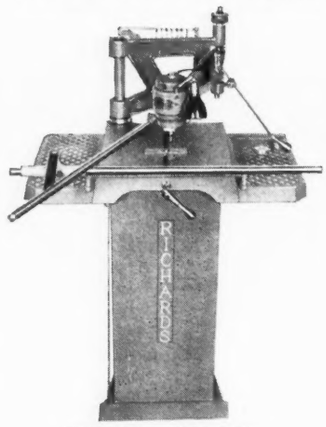
RICHARDS ROUTERS—
Produce Extra Profits



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Full Page Capacity Router—
Planer—Mortiser

ROUTERS
Radial—Tubular—Semicurves
$175.00 up

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medium-size newspaper, was told by I. Tornberg, Vice President of the Wood Newspaper Machinery Co. Slides illustrating the press were shown.

C. Homer Meredith, General Mgr. of the Hanover (Pa.) *Evening Sun*, told of the installation of a new Goss tubular press, delivery of which was delayed when the freight cars carrying it were derailed. Despite the wreck, he said, the press suffered only minor damage and has operated satisfactorily ever since.

Mr. Kuhner opened the session to questions from the floor and the principal point at issue was control of static electricity in the pressroom. Mr. Larocque gave as the best remedy damp paper. Mr. Kuhner said a humidifier in his pressroom keeps the relative humidity percentage between 35 and 40, while the temperature is maintained at 80 deg., and there is little trouble with static electricity.

Chairman Cranmer and Kuhner were joined by Charles M. Barber, Press-Stereo Foreman of the Pottstown (Pa.) *Mercury*, and James R. Grove, Press-Stereo Foreman, Hagerstown (Md.) *Herald-Mail*, in a panel discussion on pressroom problems.

Mr. Grove told of work now in progress on a new addition to the newspaper plant which will house a 5 unit Hoe press, mail room and paper storage rooms. He said newsprint will be delivered from a platform on the roof by means of a Lowerator, which will be reversible and bring cores and scrap paper up to the loading platform for delivery.

Stereotype

The Stereotype Section followed, with Nicholas Marterella, Stereo Foreman of the Camden (N. J.) *Courier-Post* as Chairman, and Dorando M. Melegari, Stereo Foreman, McKeesport (Pa.) *Daily News*, as Co-chairman.

William C. Otter, Vice President of Imperial Type Metal Co., speaking on the *Proper Care of Metal*, recommended keeping impurities away from type metals, careful study of re-melting problems, drossing efficiently and using good flux, checking temperatures and controls, having metal analyzed periodically, replacing losses regularly and cooperating by using services suggested by metal companies.

Possibility of eliminating packing of mats was discussed by J. L. Stackhouse, Publisher of the Easton (Pa.) *Express* and past chairman of the ANPA Mechanical Committee. Mr. Stackhouse cited ANPA research into stereotype problems, with $20,000 spent during the past year as an indication that the stereotype department isn't on the way out. He discussed a plastic molder which, it is anticipated, will have a life several times that of cork. The plastic returns quickly to its original shape after molding. An announcement will be made on this new molding combination when ANPA Research Director Flint and his staff have developed it further.

Mr. Marterella cited the need for uniformity in plates, keeping the type of uniform height.

Mr. Melegari's espousal of the 11½ pica column to eliminate or reduce high stereo mat shrinkage, generated considerable comment, with pros and cons profuse. Mr. Stackhouse said that while ANPA does not advocate such a reduction most national ad mats would fit into this scheme without change.

Banquet

A dinner was held in the hotel ballroom Friday evening, with Mr. Driscoll presiding. Monroe L. Mendelsohn, General Mgr., of the Atlantic City (N. J.) *Press-Union*, extended greetings to the delegates.

MacD. Sinclair, Editor of *Printing Equipment Engineer*, urged mechanical executives to study work simplification and provide equipment and material with which employees can find "shorter and quicker ways of doing their work."

Following the dinner an entertainment program was provided through the courtesy of the manufacturers' and suppliers' representatives. Millard C. Pintard, Wm. C. Herrick Ink Co., was Chairman of this activity.

(*Continued on Page 76*)

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the *Guiding Light* to
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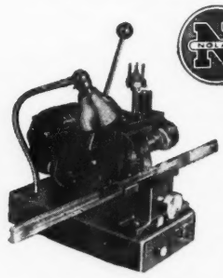

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$.75 per line 1.9/16" wide. Minimum ad 5 lines, 29 characters per line. Cash with order.

CLOSING DATE—15th of Month preceding Date of Issue.

We will forward all mail addressed to Box Numbers. When answering Box Numbered ads, address as follows: Box Number . . . PRINTING EQUIPMENT Engineer, 1276 West 3rd Street, Cleveland 13, Ohio.

HELP WANTED

Southwestern commercial plant planning installation of foundry for rubber, plastic, electro and stereo plates is seeking applications for working foreman qualified to specify equipment, plan plant layout and produce high quality plates from new equipment. Permanent position with splendid opportunity for sincere intelligent man. Replies should state age, family status, past ten year experience and contain references as to capability. All replies held confidential. Present employers will not be contacted without permission of applicant. Box 348, Printing Equipment Engineer.

PRINTING SPECIALIST, successful in production cost reduction through research and machine development seeks new connection with printing or paper converting firm. Reply Box 346, Printing Equipment Engineer.

Situation Wanted

Field Service Engineer, expert on Tensions, Pasters, Press Drives. Knows pressroom operations. Desires responsible work. Reply Box 350, Printing Equipment Engineer.

FOR SALE

Cutler-Hammer two-motor full automatic newspaper press drives and control panels. 220 volt, 3 phase, 60 cycle AC. Complete with resistors and push button stations.

Two 75/7 ½ H.P. crosshead type, equipped to parallel, pair will power 4 or 5 unit press.

One 40/3 H.P. faceplate type, will power 4 decks single width, quad or 16 page tubular, press.

Used, serviceable, recently withdrawn from service, reasonably priced, immediately available.

The Eastern Color Printing Company
Waterbury 20, Conn.

WANTED

Direct Pressure Mat Molding Machine for hot or cold molding with controlled pressure up to 800 tons. Reply giving detail, Box 351, Printing Equipment Engineer.

Ask PRINTING EQUIPMENT *Engineer* to help find it!

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CLINE
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100% AUTOMATIC SLUG SAWING
Odd measure slugs sawed to any measure as ejected from linecasting machine. Fast-accurate-economical.
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CUTS. .STEREOTYPES...ELECTROTYPES
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★ **PLANT LAYOUT MECHANICAL PRODUCTION SERVICE** *AT YOUR DISPOSAL*
★ **COMPLETE PLANTS EQUIPPED** *LARGE OR SMALL*

(*Continued from Page 74*)

Composing

Hans E. Rosberg, Mechanical Supt. of the Norristown (Pa.) *Times-Herald*, served as chairman of the Saturday morning Composing Room session, with Claude E. Schell (Reading, Pa.) *Eagle-Times* Newspapers' composing room foreman, as Co-chairman. Mr. Rosberg warned that new ideas must be considered and put into use, lest some in the industry wind up on the outside "looking in."

Ray C. Cook, Sales Director, Printers Equipment Division, Hamilton Manufacturing Co., talked on *Better Plant Layout* and urged that the newspaper printing operation be put on an assembly line basis. "In any of our big, streamlined industries, we see the materials brought to the man rather than the man running around from place to place gathering up his materials. This has definitely proven a far more productive system." Basic points in making up a layout of master plan, he continued, are (1) Flow of work from front office through composing room to press or stereotype room; (2) Number employed in composing room and their responsibilities; (3) Suitability of present equipment; and (4) Provision for future changes and expansion.

The composing room is often asked by advertisers to do work in type that should be the job of photoengravers, Bill Coddington, Composing Room Foreman of the Youngstown (O.) *Vindicator* said. Mr. Coddington set off a flurry of comment from the audience. He said the *Vindicator* made no extra charge for tricky work. One executive suggested that some premium should be added for advertising layouts involving slanting boxes and other tricky makeup. A show of hands was asked for those whose papers made such a charge, and only one responded. M. L. Detweiler of Lancaster said his paper added 10 per cent to the cost. None present showed a hand when the gathering was asked if any papers refused to do such work. "You're missing the boat if you don't have the proper equipment," Mr. Coddington warned.

Teletypesetters were called "a better and more flexible way of meeting the deadlines that are a part of every newspaper's production problem" by Samuel W. Miller, Production Vice President of the Allentown (Pa.) *Call-Chronicle*.

"With two years of Teletypesetter experience under our belts, we believe that this equipment is admirably suited for the production of straight news copy for newspapers," Mr. Miller said. "Perforator operators within a year can be brought to a speed of 300-350 lines an hour, and the transmission and casting equipment easily keeps pace with the flow of tape."

Mr. Miller's brother, Don, asked why a machine capable of casting 12 to 16 lines a minute cannot be developed (his Teletypesetters 7⅓ lines per min.)

Good lighting is a "must" in the composing room, Harry Sherman, Mechanical Supt. of the Allentown (Pa.) *Call-Chronicle* told the parley. "In the *Call-Chronicle* plant we have found what is believed to be an ideal lighting arrangement through the proper adaptation of the slimline fluorescent lamp."

A panel followed on *An Advertising Manager's Advice to the Compositor*. A. Wallace Zimmerman, Advertising Mgr. of the Plainfield (N. J.) *Courier-News*, admonished that newspapers must produce effective, result-getting ads to compete with other media.

Harvey A. Huff, Advertising Mgr. of the New Brunswick (N. J.) *Home News*, said that costly delays hurt circulation and advertising revenue as a result of the loss of cuts or mats between departments.

George Stewart, pinch-hitting for James S. Lyon, General Mgr. of the Washington (Pa.) *Observer* and *Reporter* urged that personnel be trained in knowledge of type faces, letter count etc.

A Look Into The Future

Donnell P. Shortell, Mechanical Supt. of the Asbury Park (N. J.) *Press* was chairman of the Saturday luncheon at which William W. Garth, jr., President of the Graphic Arts Research Foundation, Inc., was principal speaker.

Printing needs research, Mr. Garth declared. A research organization meeting the requirements, he continued, is the Graphic Arts Research Foundation. He said all concerns in printing, other than suppliers, may participate in the endeavor, adding that 150 concerns presently subscribe to the service. He discussed a photographic type composing machine which will go into field operation this summer. "It has been variously estimated that the Higonnet-Moyroud machine will be from three to five times as productive as hot metal processes.

Smaller City Newspapers

In the afternoon, there was a session on *Smaller-City Newspaper Problems*. Paul G. Donahue, Mechanical Supt. of the Coatesville (Pa.) *Record*, served as chairman, with William C. Jones, Mechanical Supt. of the Salem (N. J.) *Sunbeam*, as Co-chairman.

A forum on machinists' problems was presented by Harold Plaut and John Bittner of Intertype Corporation. They showed 30 stereopticon slides on Intertype operation.

Speaking on "Controlling Costs of a Weekly," Edward C. McMahon, Publisher of the Cranford (N. J.) *Citizen* and *Chronicle*, asked reduction in waste of newsprint and other items—including time and labor.

"A great many publishers are of the opinion that it is profitable to take advertising right up to press time," he said. "In many cases they are running at actual cost, due to overtime at $3.42 per hour. Sell ads at 60c per in. and pay at the rate of $3.42 per hr., and how much can you make?"

Discussing "Press Efficiency and Maintenance," George T. Wegemer, Mechanical Supt. of St. Marys (Pa.) *Press*, listed points considered in his plant: "Keep the press well oiled, take care in placing forms on the press beds, keep the press clean, and always be on the look out for loosened nuts, bolts, nuts, set screws and keys."

ADVERTISERS' INDEX
for May 1950

P. E. E. REPRESENTATIVES

WILLIAM L. OSBORN, Eastern Manager, 1712 Grand Central Terminal, New York 17, N. Y. Phone MUrray Hill 6-5980.

EUGENE A. POWERS, Midwest Manager, 612 N. Michigan Ave., Chicago 11, Ill. Phone: SUperior 7-2444.

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That piece of equipment you sorely need but can't locate is possibly gathering dust in one of the 7500 plants reached by *Printing Equipment Engineer*. Make your wants known with a *Printing Equipment Engineer* Classified Ad. You'll find what you need quickly and at small cost. Rates on page 75.

a GOOD *Radial Router* at a MEDIUM PRICE!

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There are all kinds of radial routers . . . cheap and inadequate . . . *the good Hammond Radial Router at a medium price* . . . and the higher priced extra sensitive engravers' routers.

The Hammond Radial Router has what it takes to give you good routing performance and years of trouble free service. The ball bearing spindle runs at 12,000 RPM. It incorporates greased sealed bearings, quill and spline shaft. The pulleys and other parts are dynamically balanced for smooth, vibration free operation. The Hammond Radial Router is fully powered, ruggedly built and has good "feel" and sensitivity. The machine has a capacity of up to full-page plates. *The Hammond Radial Router is a good machine at medium price.* Write for complete information, there is, of course, no obligation.

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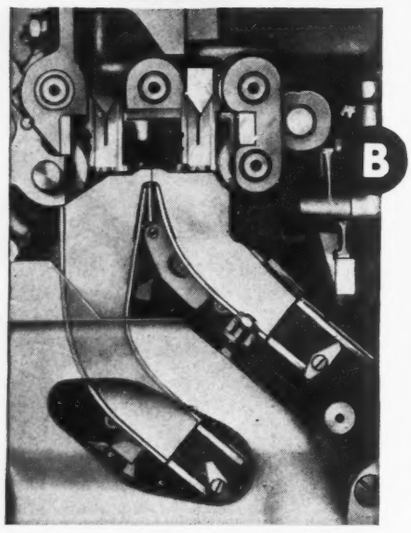

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